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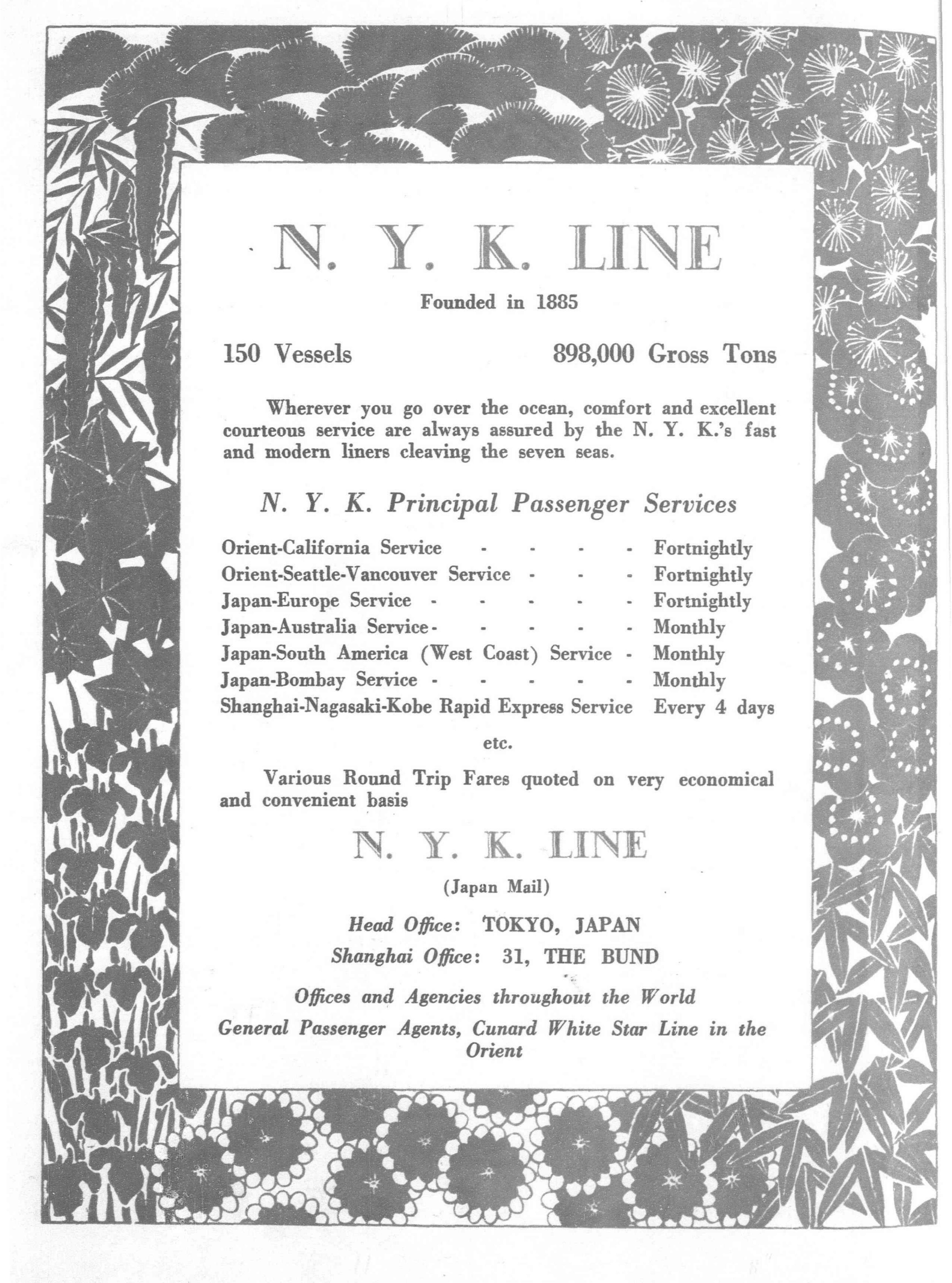
By GEORGE BRONSON REA

CUNNINGHAM OF SHANGHAI

Vol. XXXII

JANUARY, 1936

No. I



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CONTENTS:

	PAGE			PAGE
A MESSAGE OF PEACE	1	WHY JAPAN FORGES AHEAD	(P. 14	*24
AMERICAN TRADE PROSPECTS IN THE ORIE	NT *.1	A 100,000,000 YEN RESEARCH INSTITUTE		26
THE OCHS MEMORANDUM	*10	SOVIET PURCHASES IN JAPAN		27
SOVIET DEFENSE PLANS	15	A BILLION YEN BUILDING BILL		*28
CUNNINGHAM OF SHANGHAI	*16	TWENTY-SIX CENTURIES		*29
ADHERING TO FICTIONS	18	THE WAUKESHA MOTOR COMPANY		*32
DOWNRIGHT MISREPRESENTATION	20	JAPANESE STEEL INDUSTRY		38
JAPAN'S INVISIBLE TRADE FOR 1935	*22	THE EVERSHED GOLDEN JUBILEE		*39
MOSCOW SUBWAY WORK PROGRESSING	22	TOKYO'S BUSY MODERN HARBOR		*41
FRIENDLY RELATIONS AS BASIC TRADE POI	LICY . 23	ENGINEERING NOTES		48

*Illustrated with Maps or Photographs

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Butterfield & Swire Cover Dai-Ichi Ginko, Ltd 36 Dai Nippon Boseki Kaisha 25	Japan Sugar Mfg. Co., Ltd Jardine Engineering Corporation Ltd., The	18	Mitsui Bank, Ltd	Taiwan Seito Kabushiki Kaisha 13 Thornycroft & Co., Ltd., John I. 3 Toshin Soko Kaisha 10 Toyo Boseki Kaisha 27 Toyo Menka Kaisha, Ltd 24
Dai Nippon Brewery Co 24 Demag Aktiengesellschaft, Duisburg	Kawasaki One Hundredth Bank,	26 32 27	Naigai Wata Kabushiki Kaisha 25 Nippon Menkwa Kabushiki Kaisha 1.5 Nippon Yusen Kaisha Cover Nisshin Boseki Kabushiki	Uebersee Post
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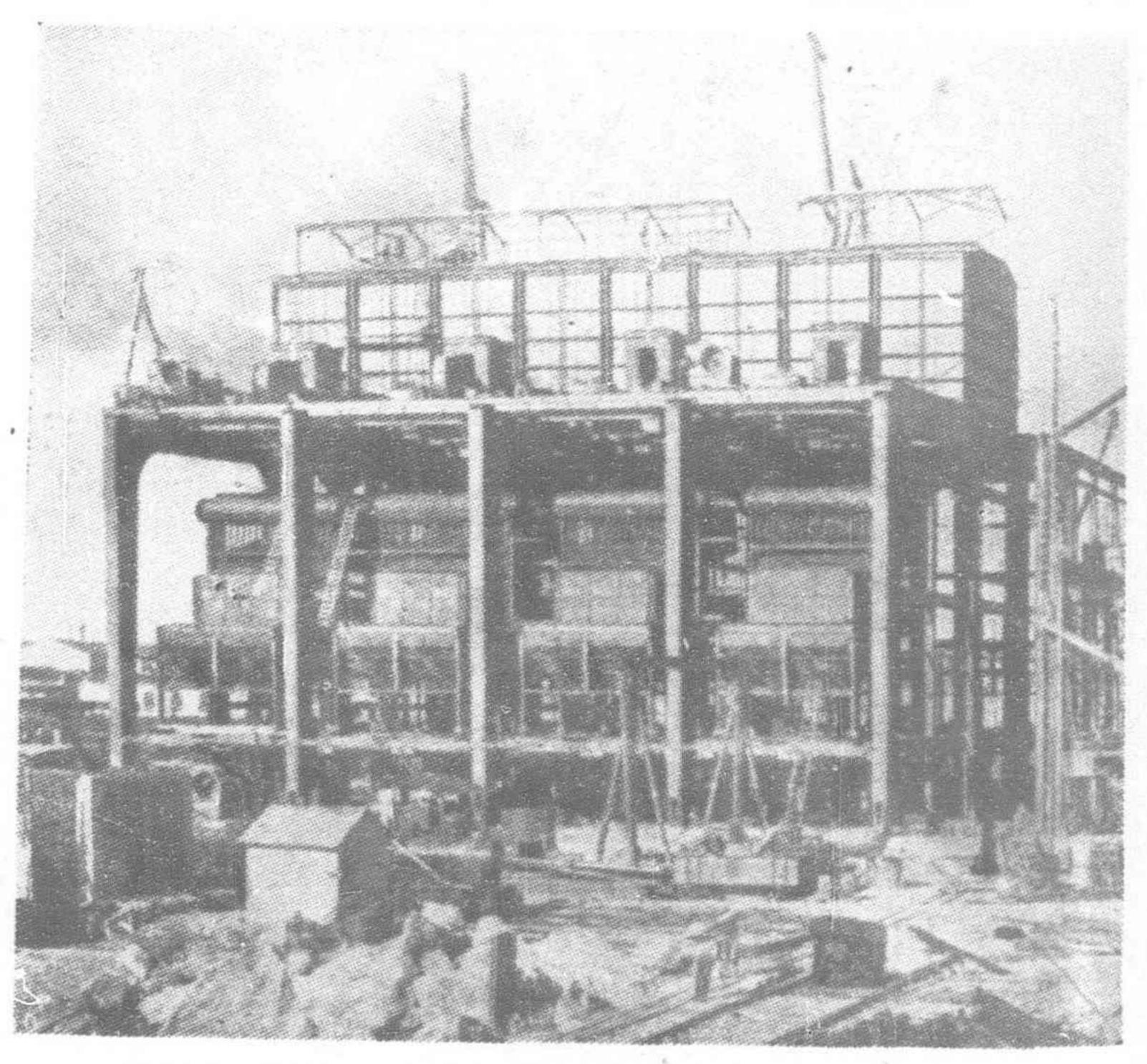
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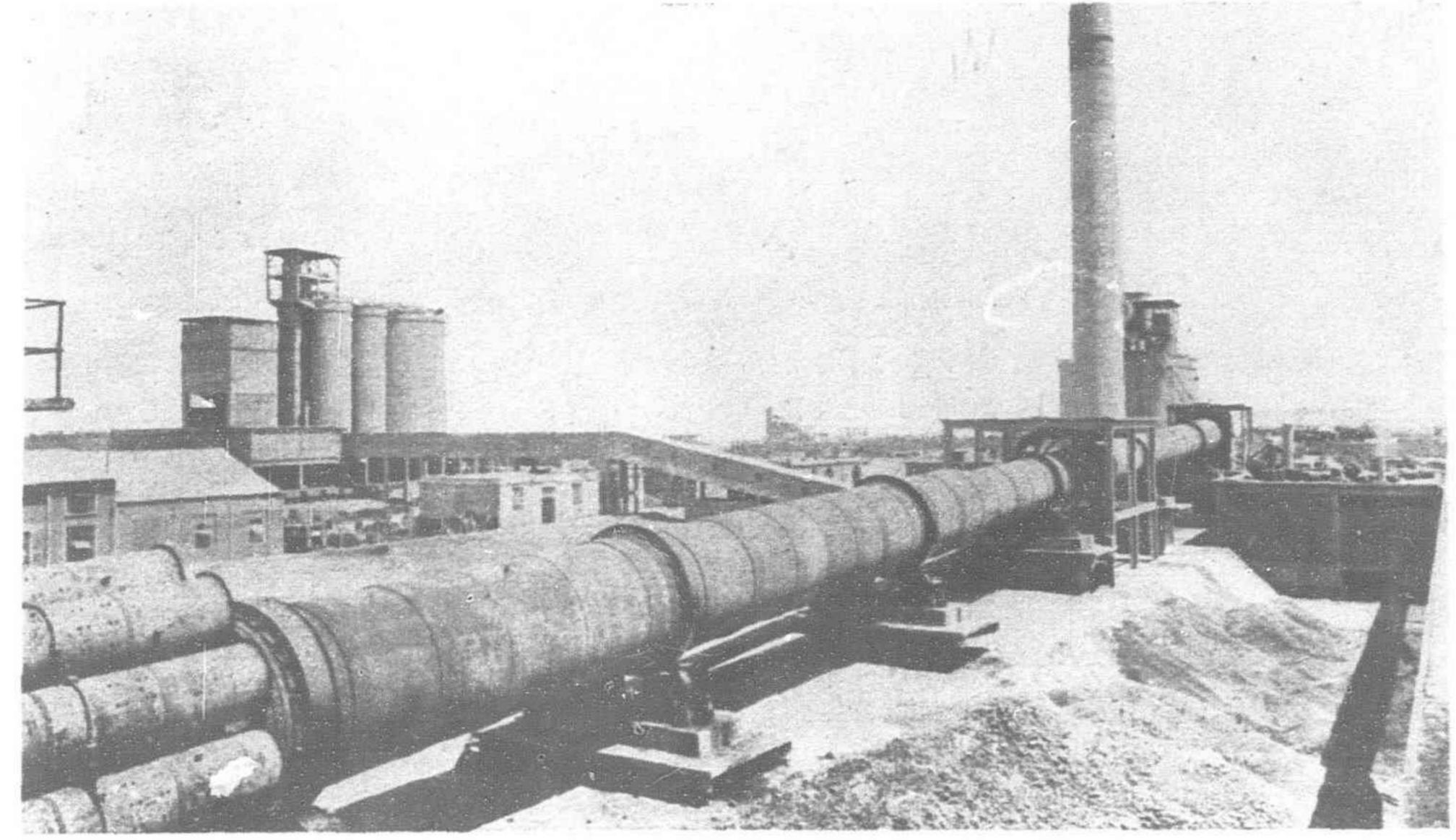
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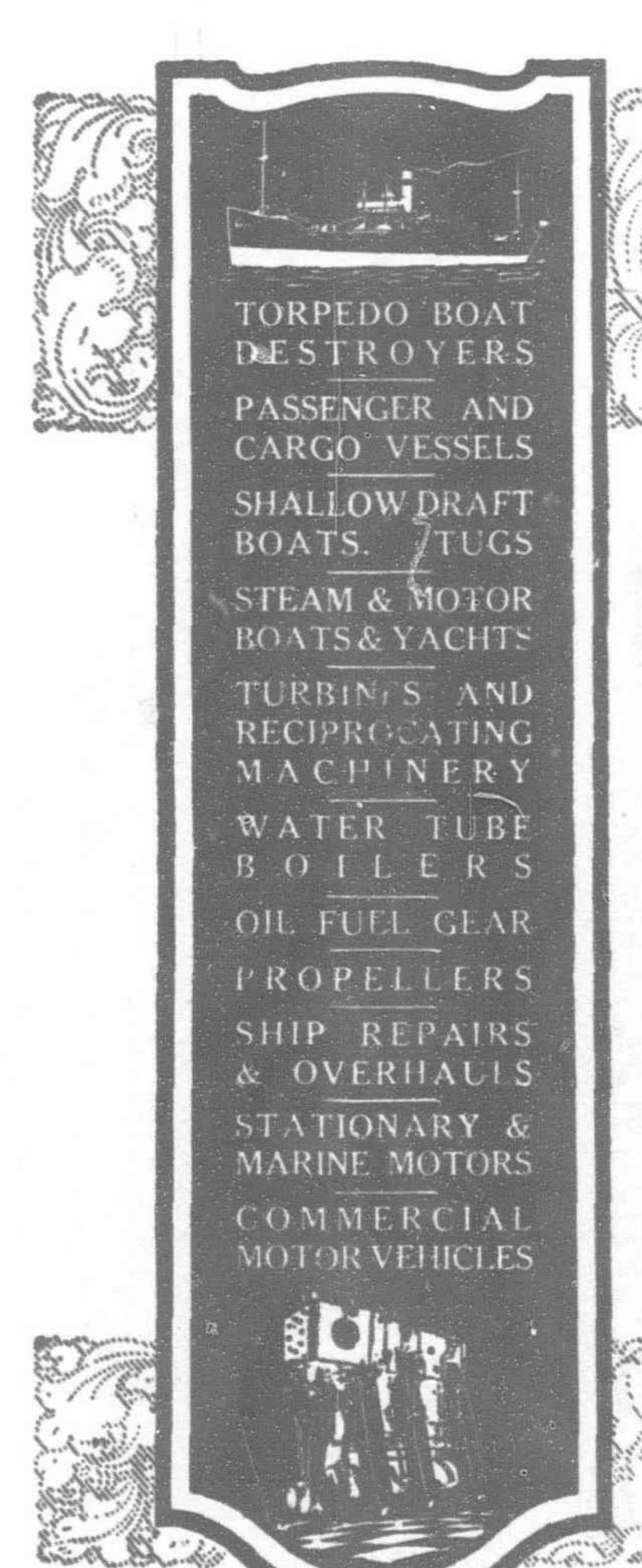
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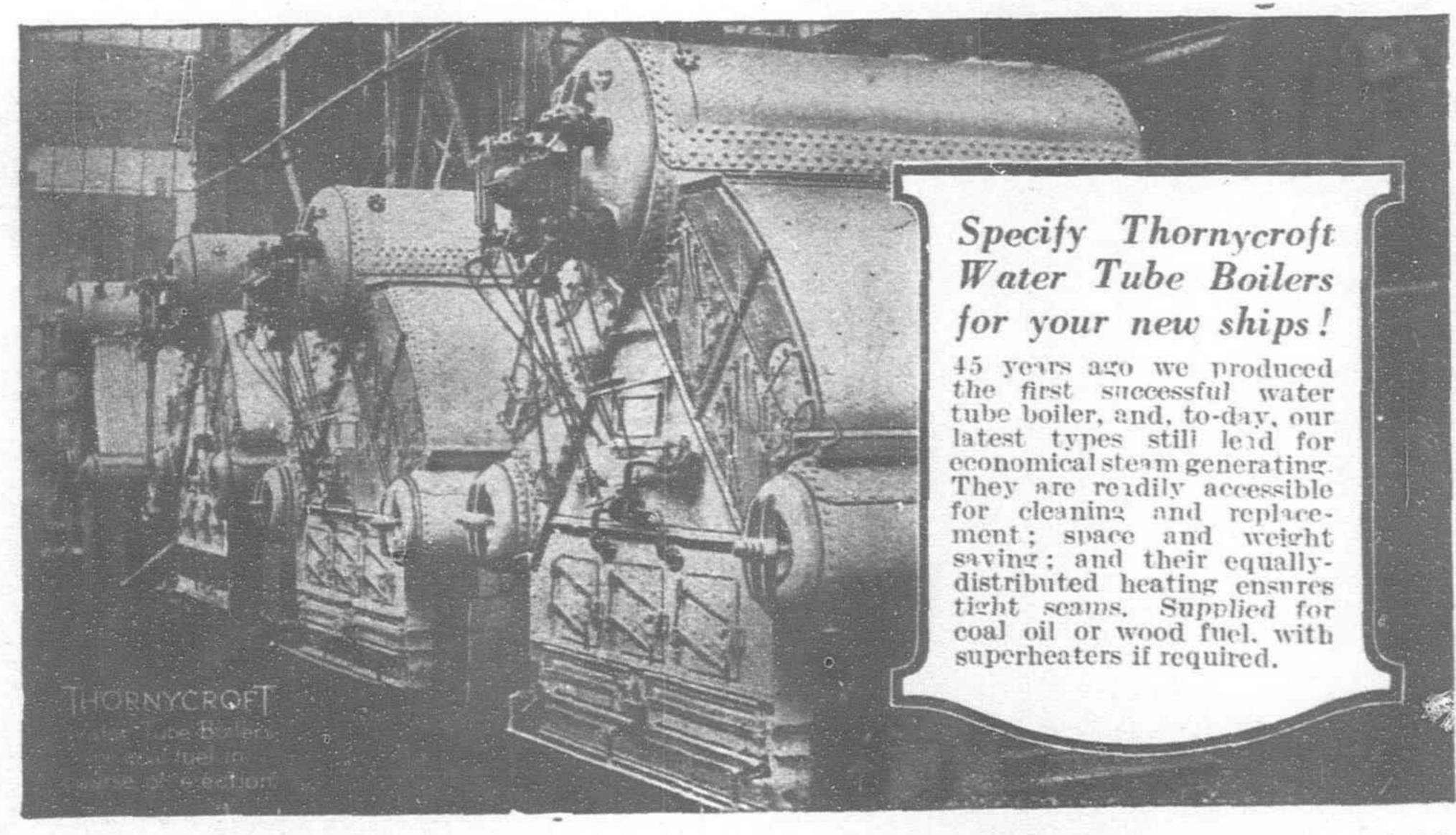
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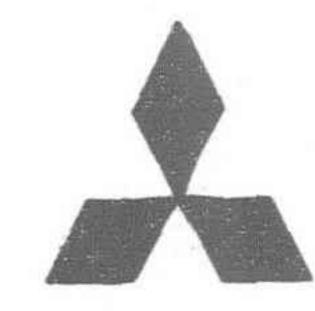
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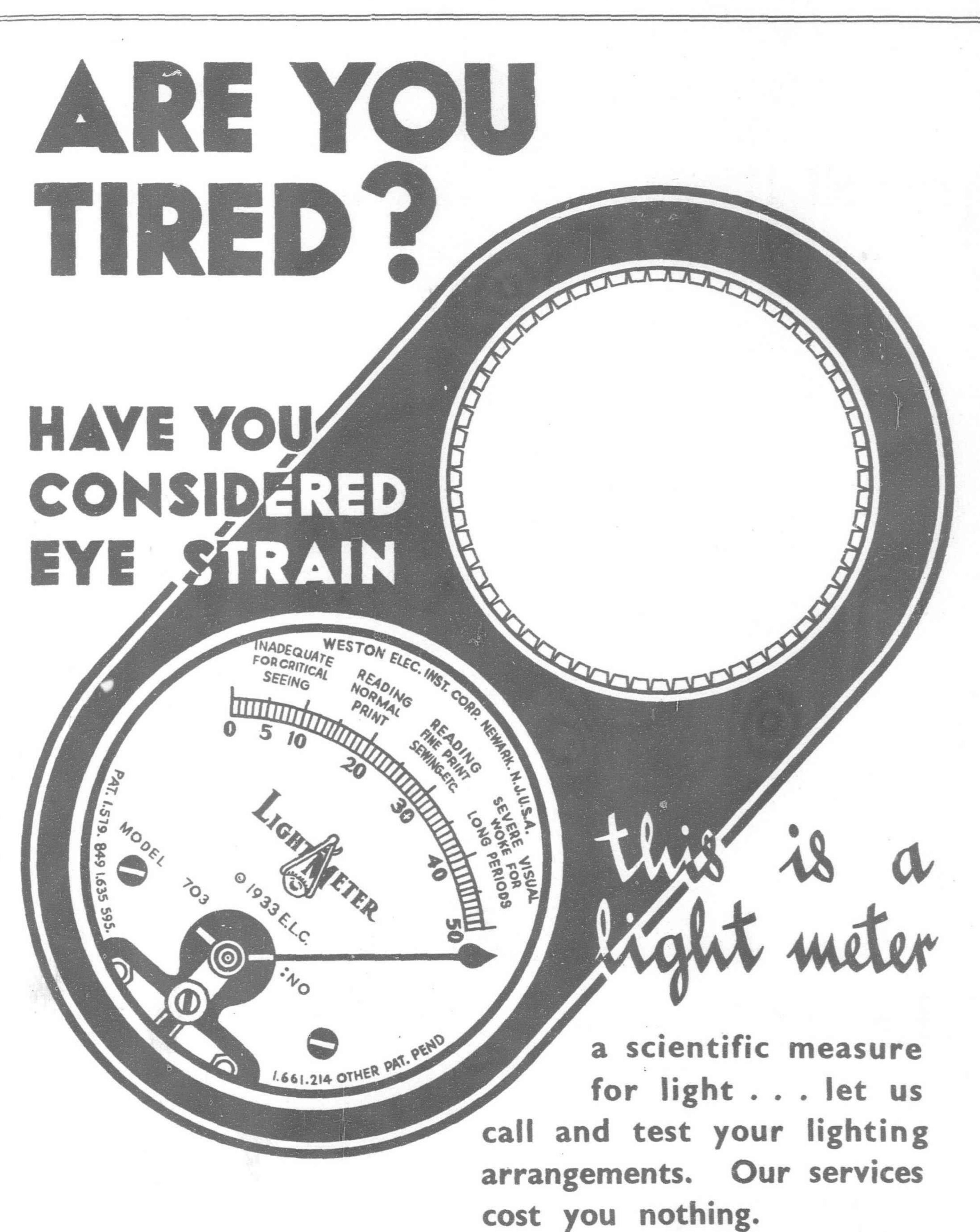
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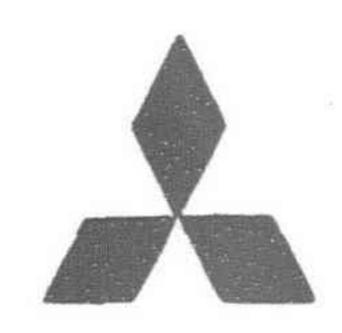
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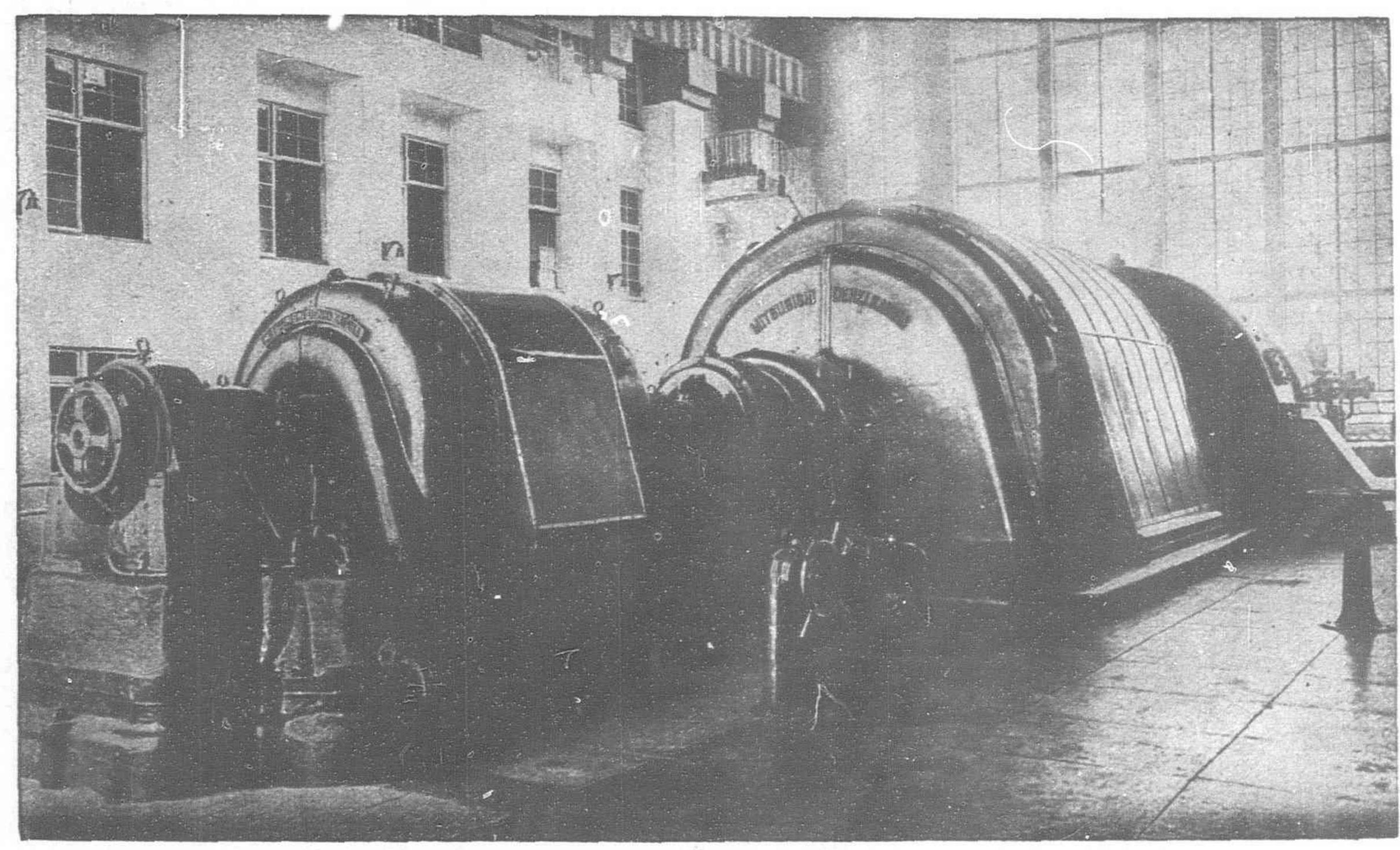
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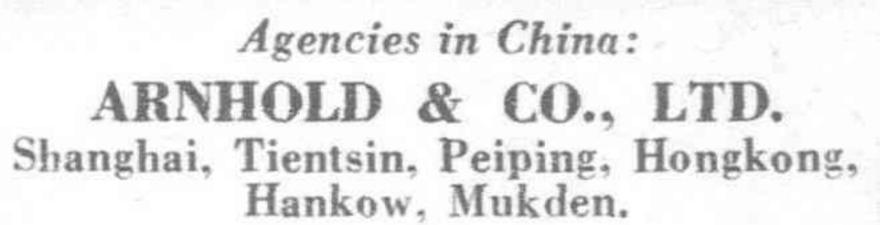
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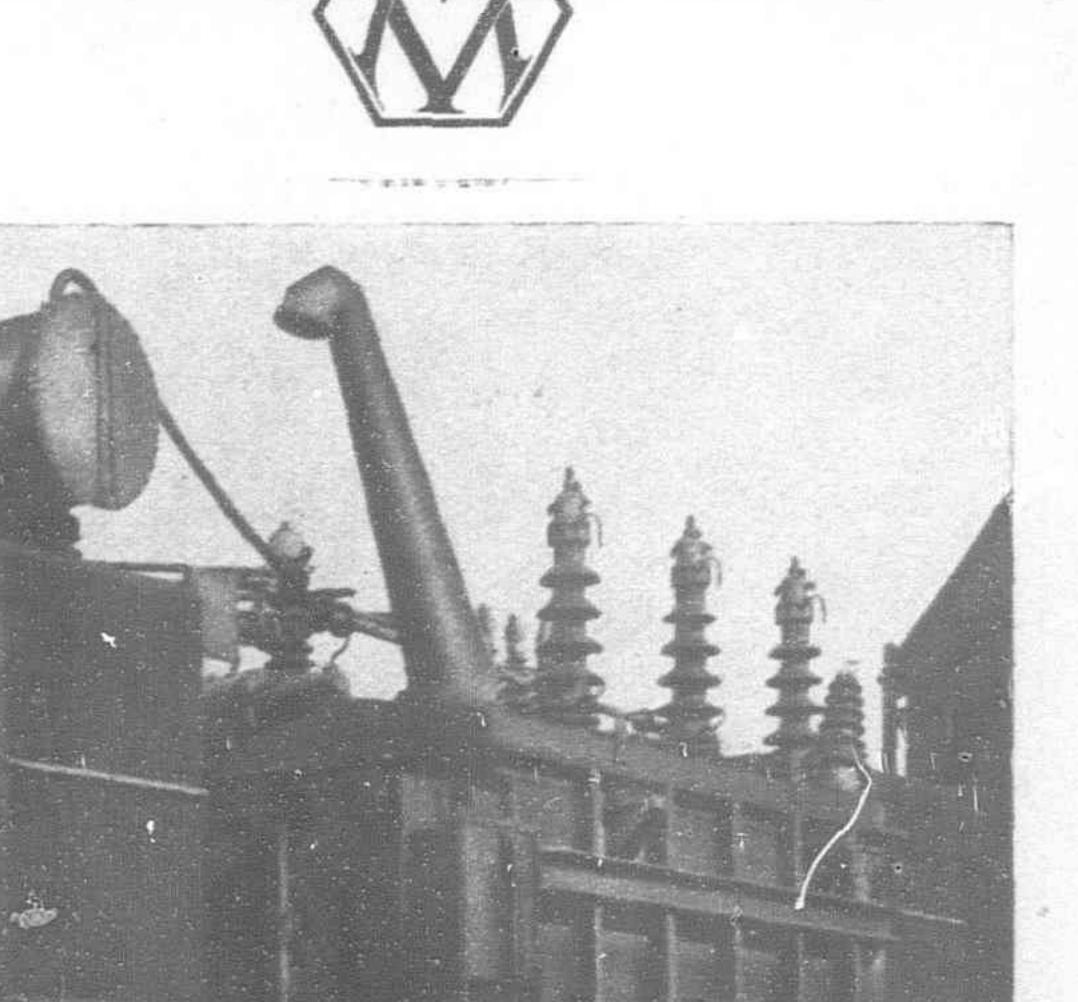
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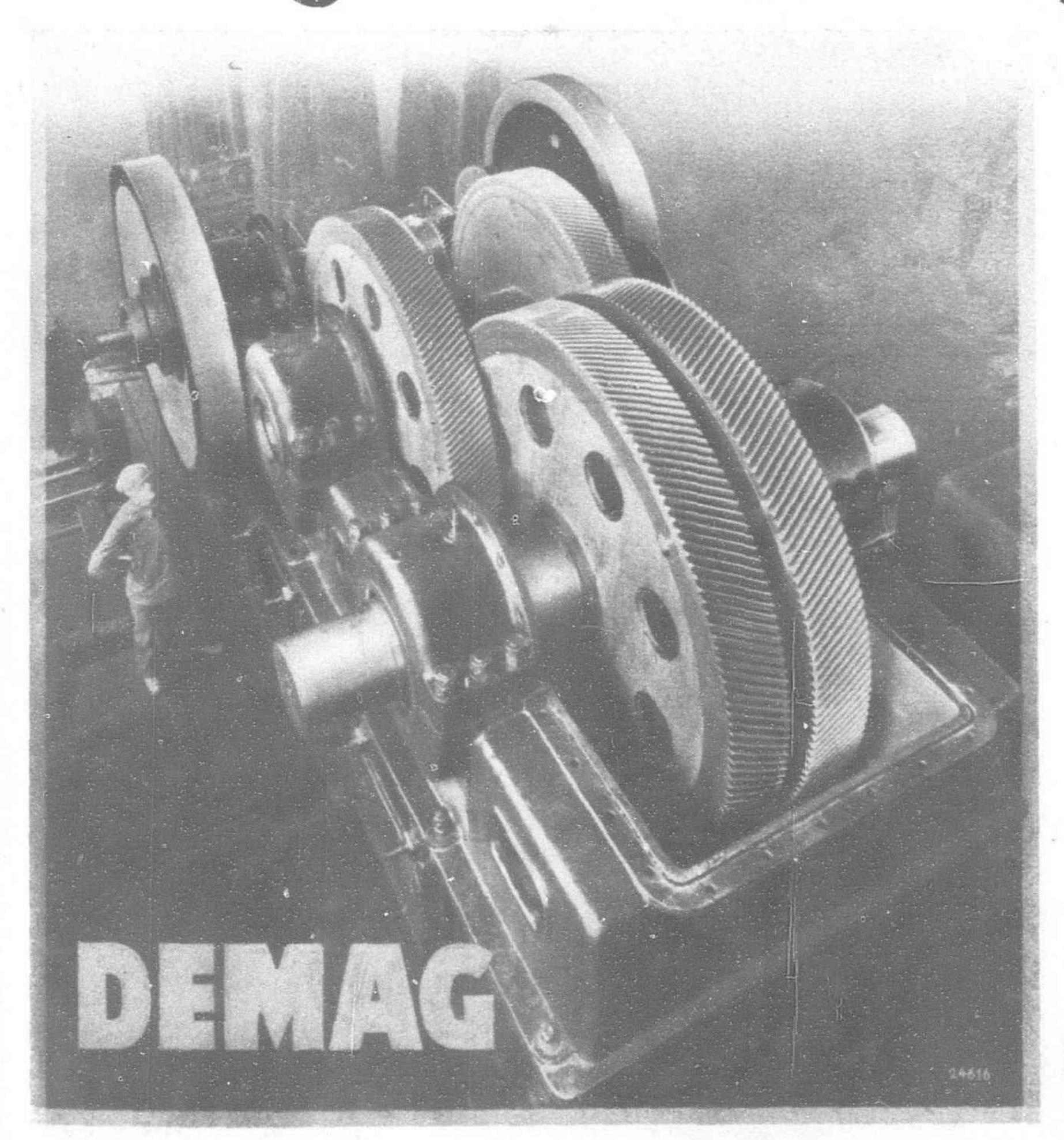




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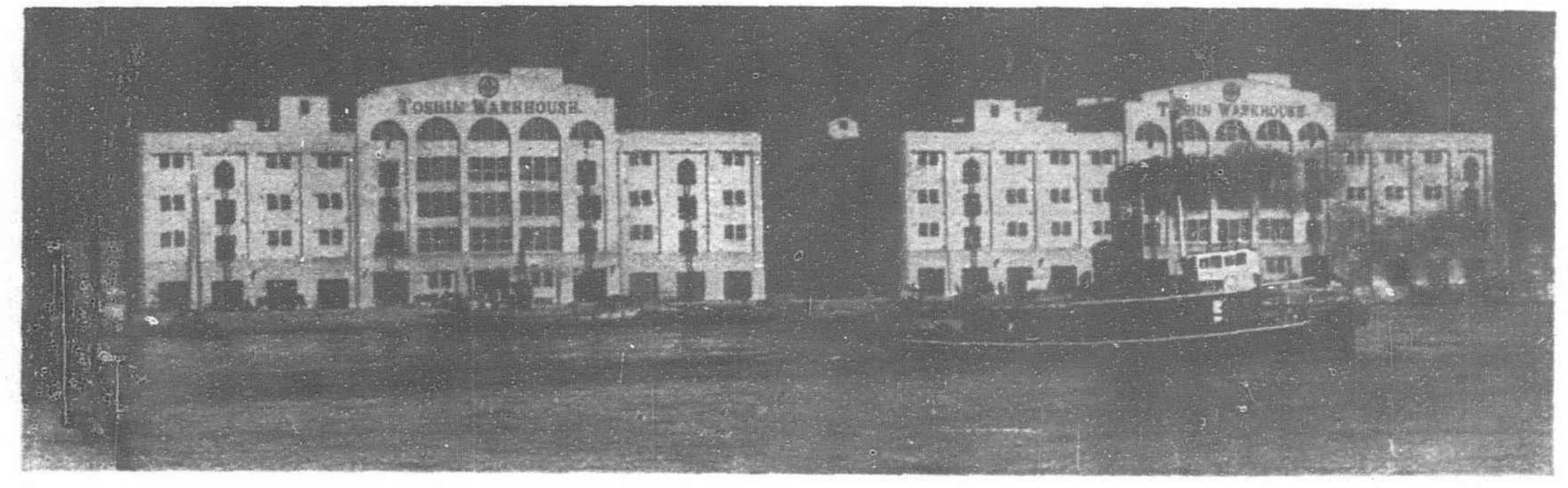
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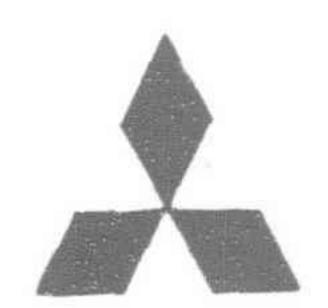
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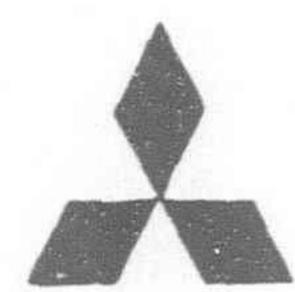
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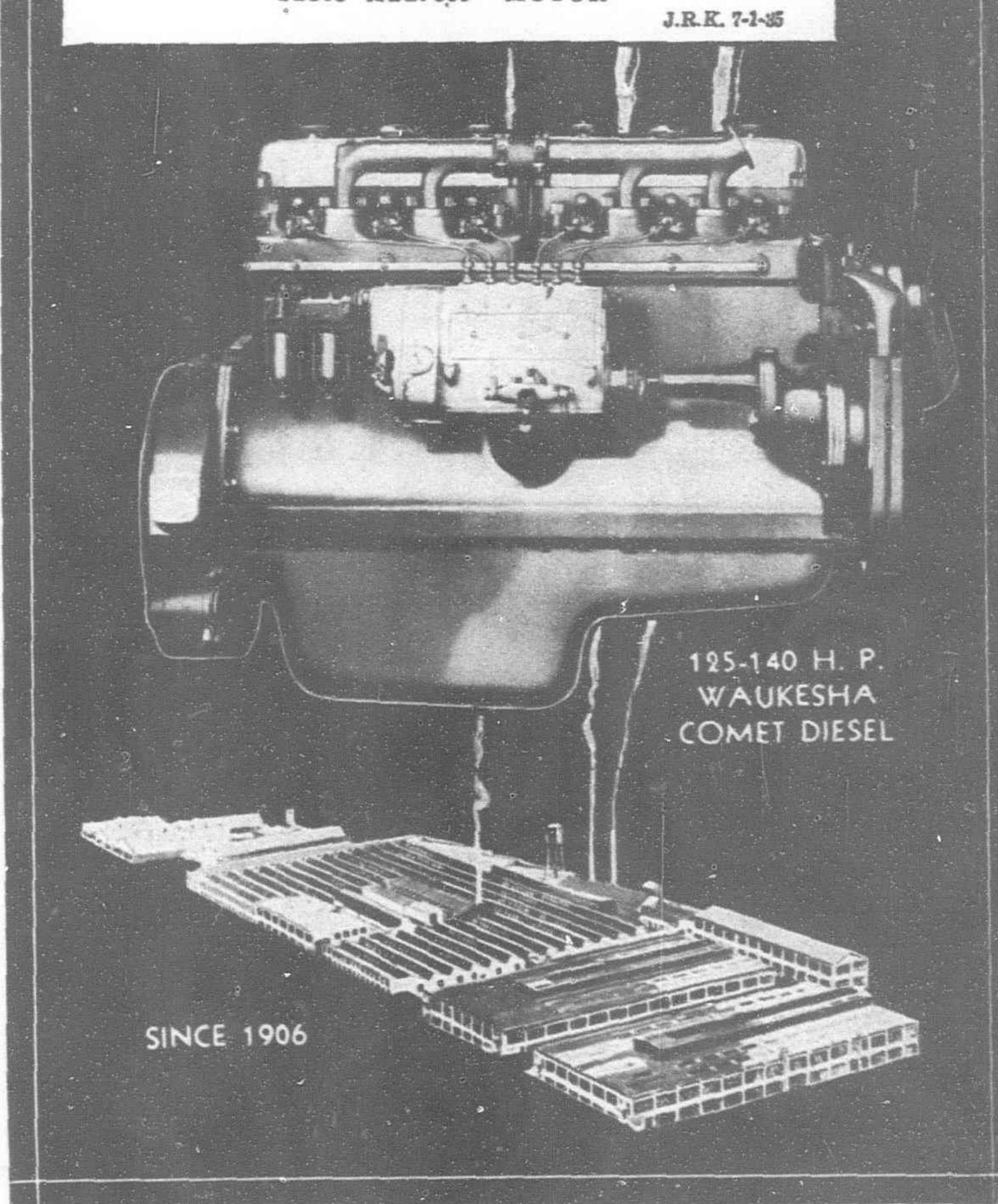
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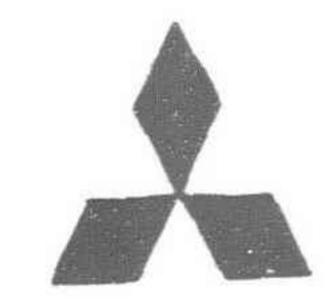
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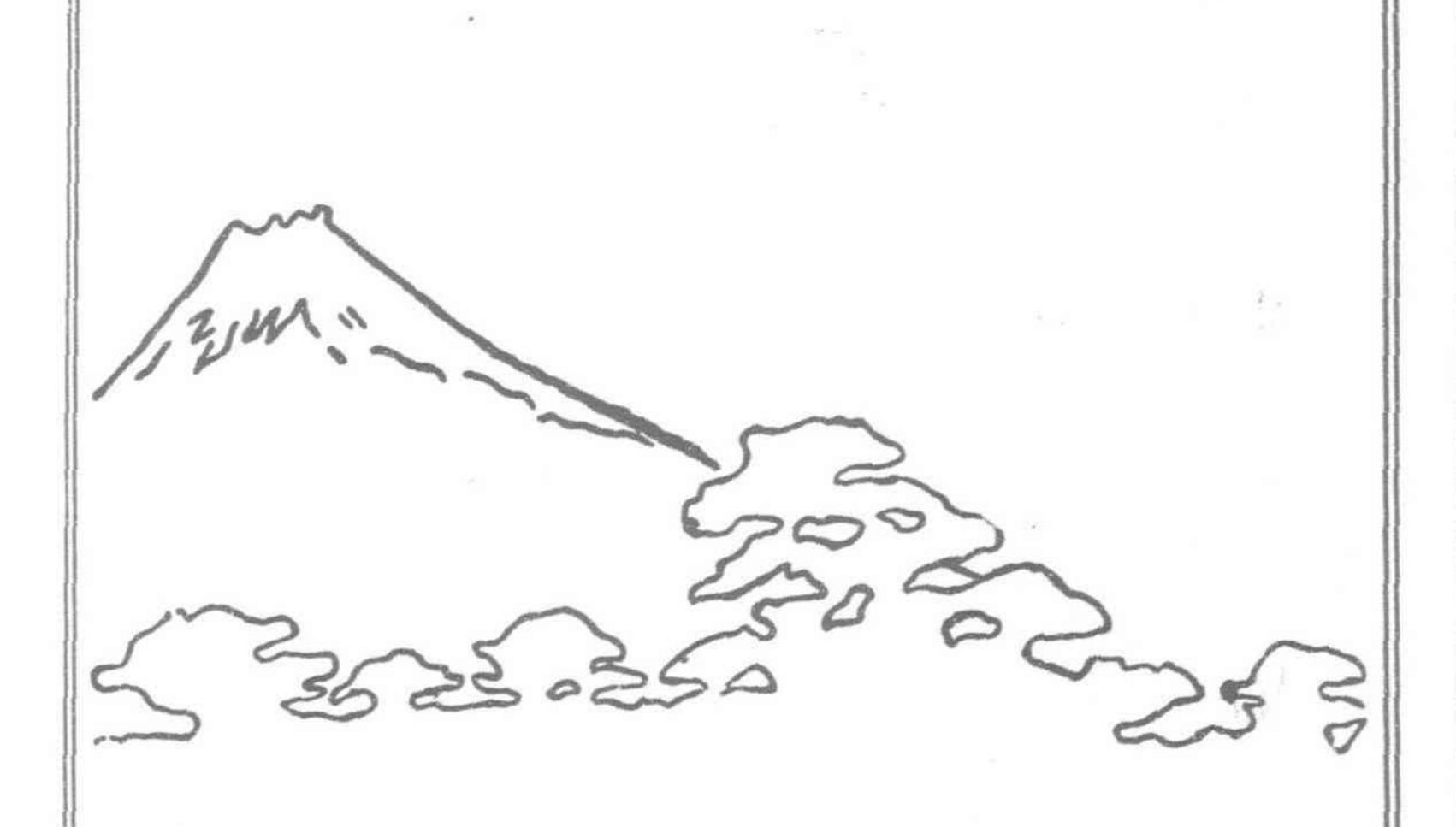
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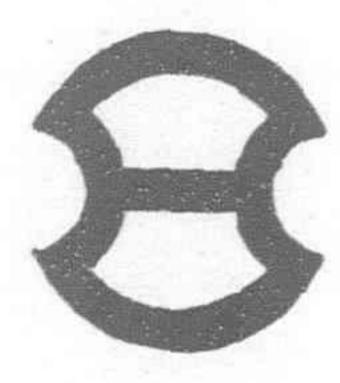
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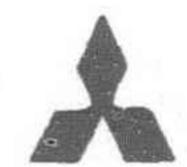
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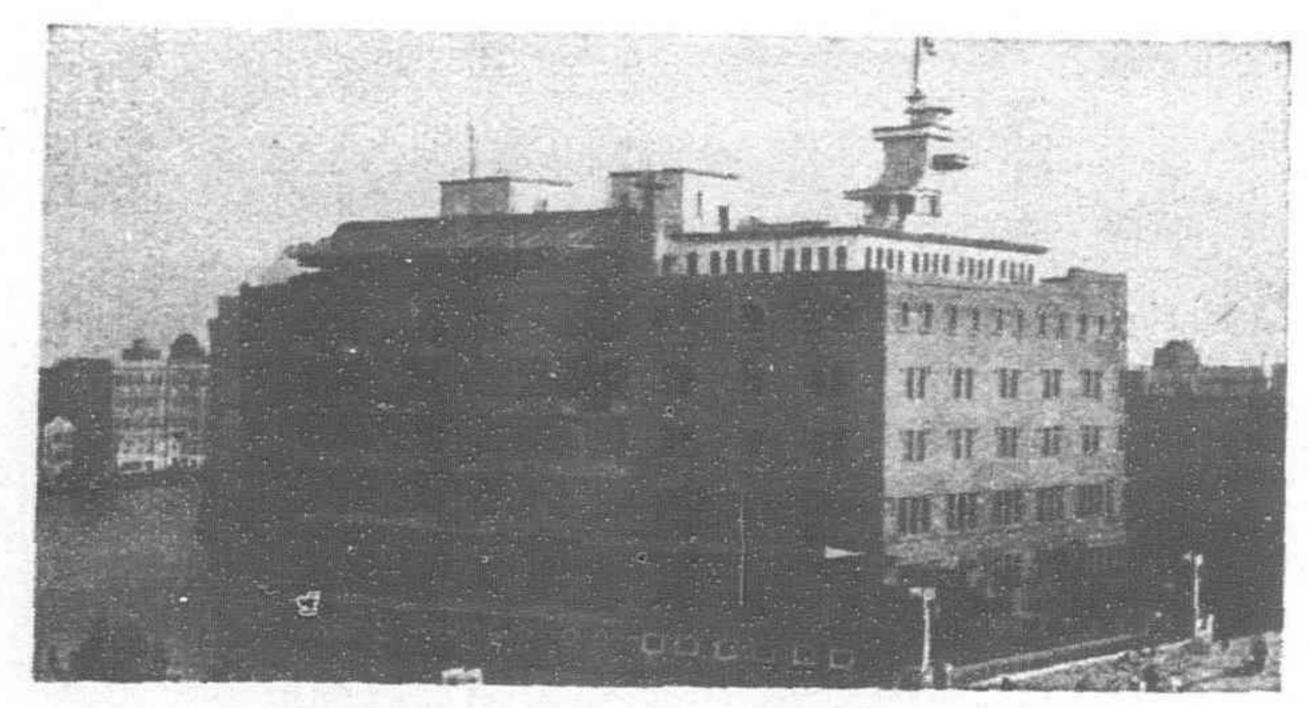
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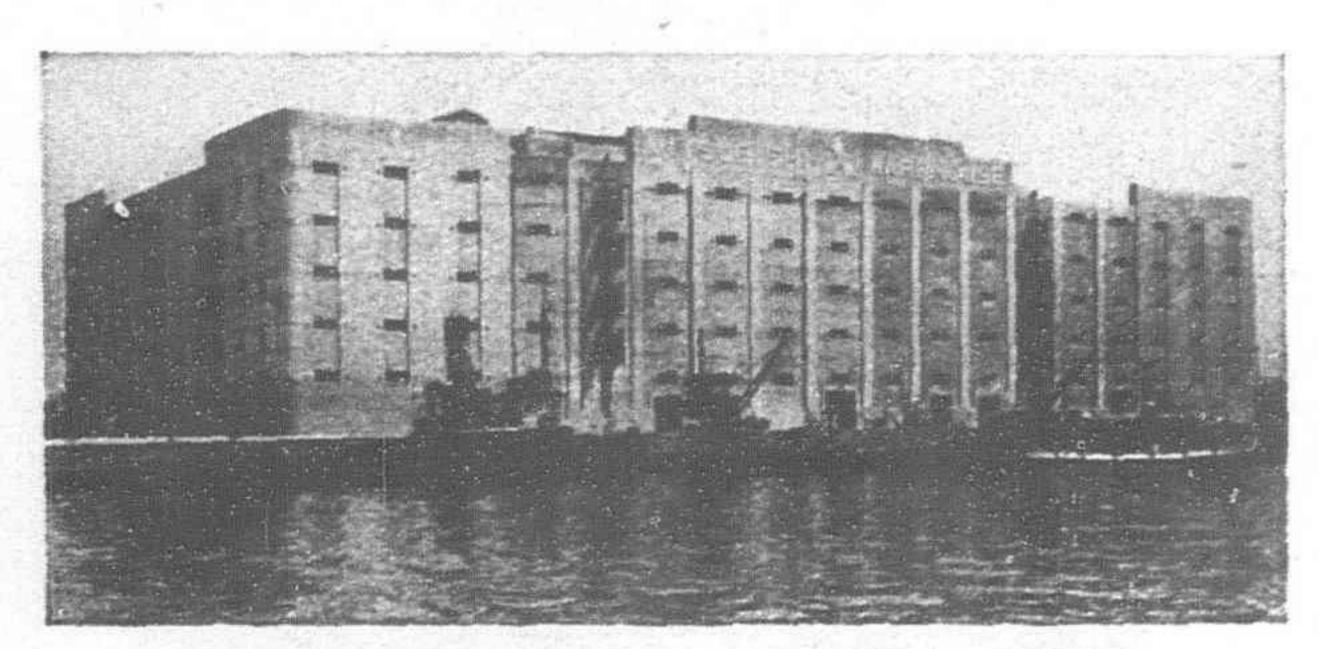
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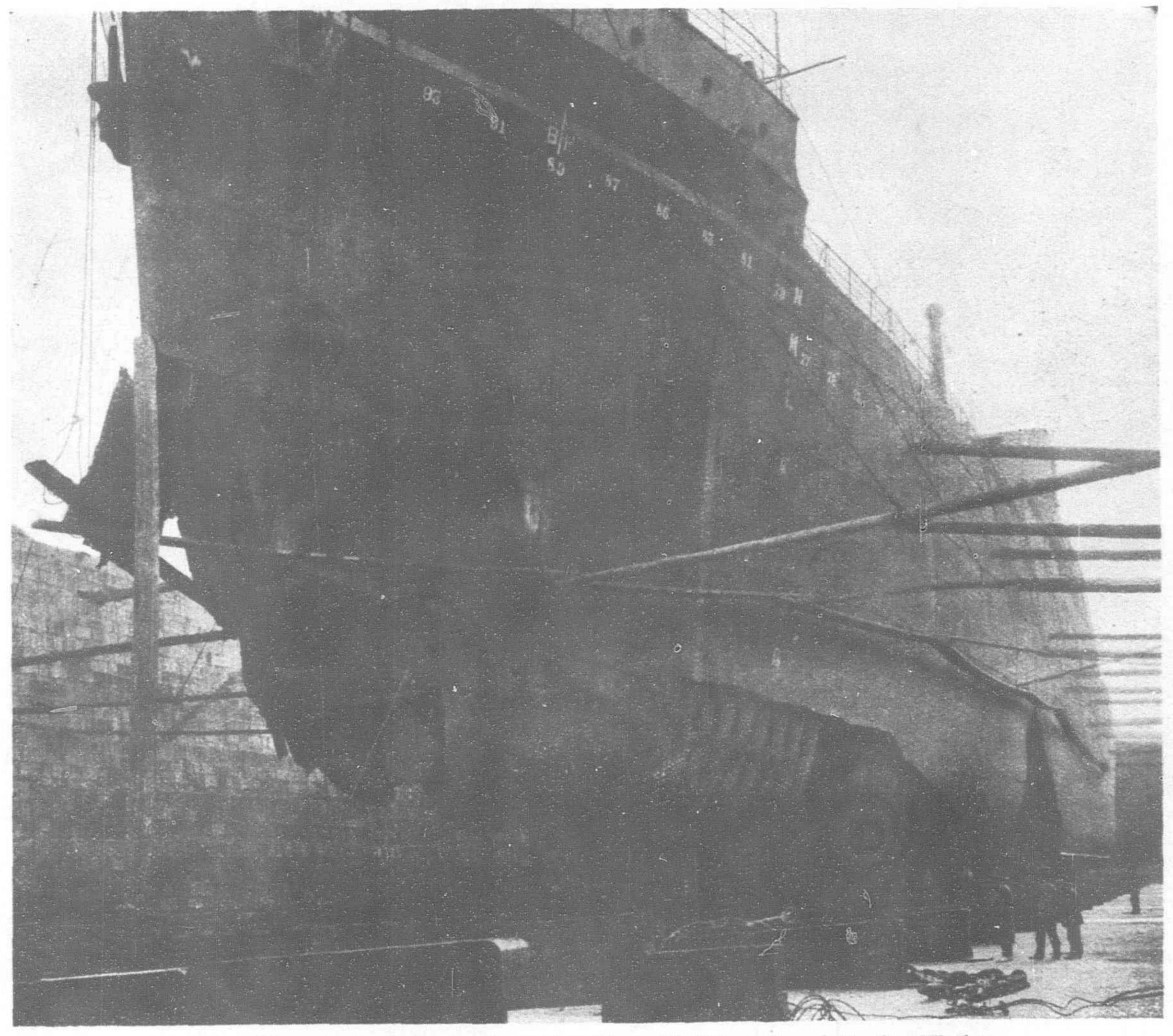
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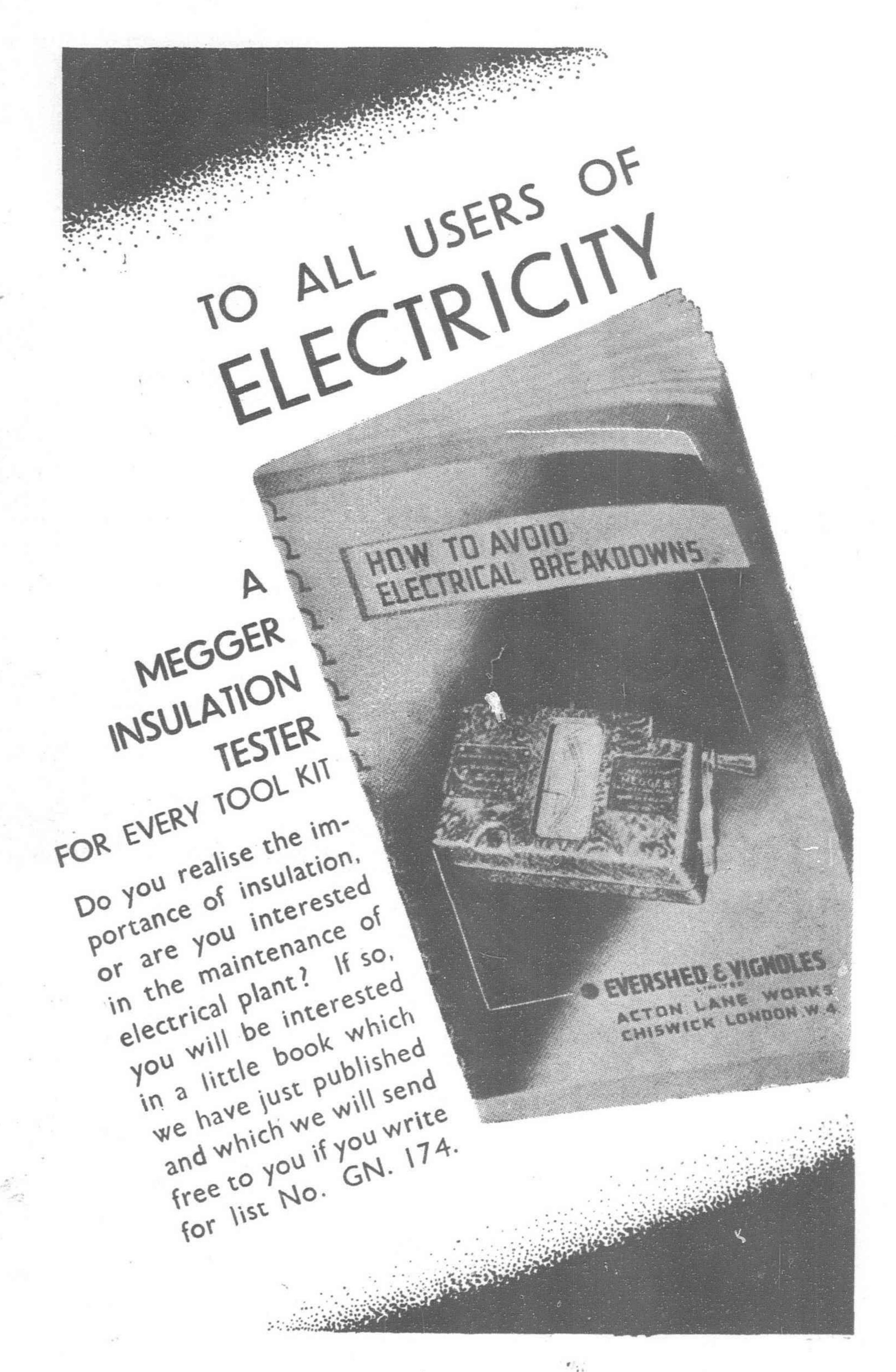
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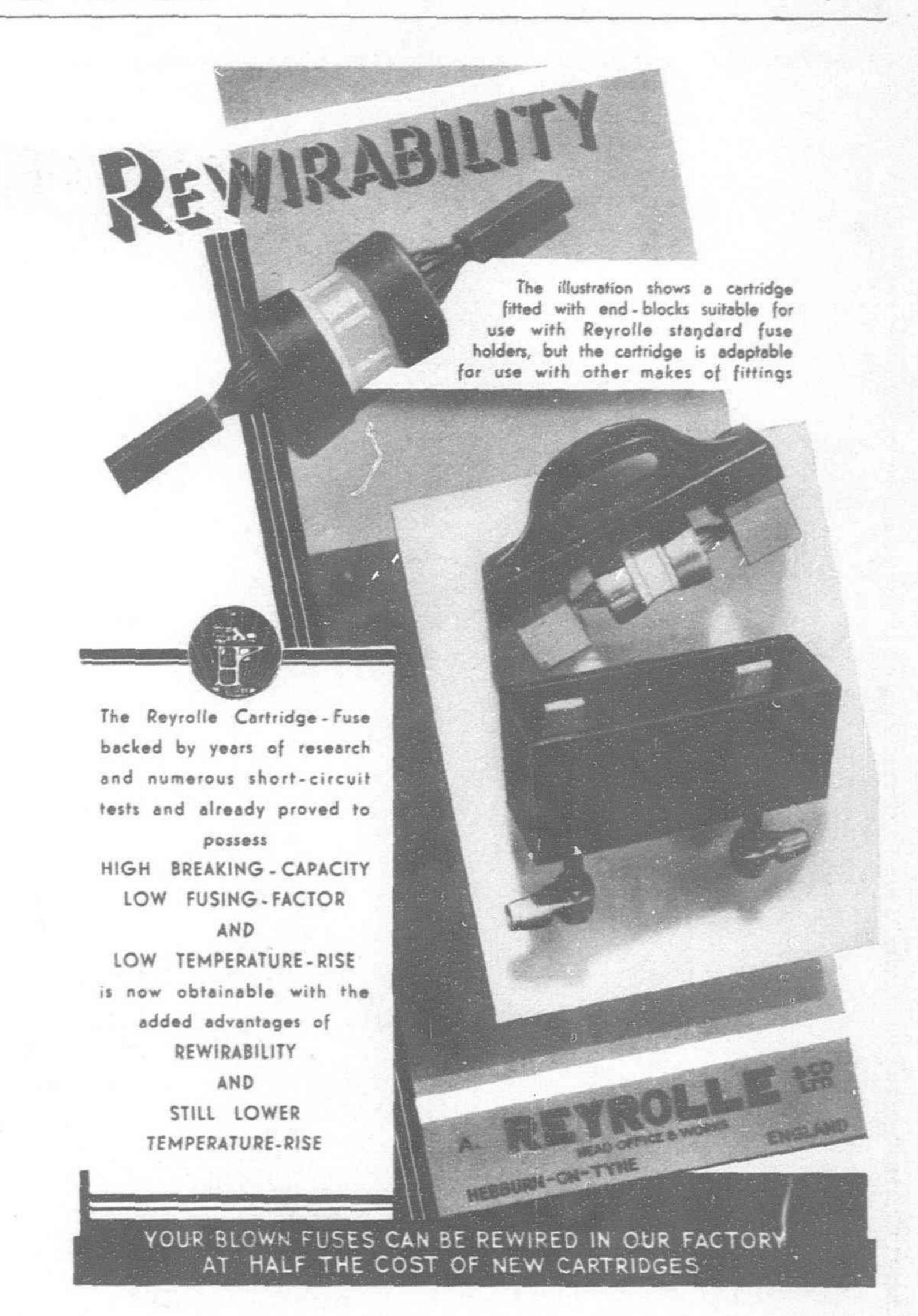
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The final section of the report examines the charge of "social dumping" which has at times been levelled against Japanese industry.

GENEVA, 1934. 70 pp. 8vo. PRICE: Paper cover, \$0.50 Mex.

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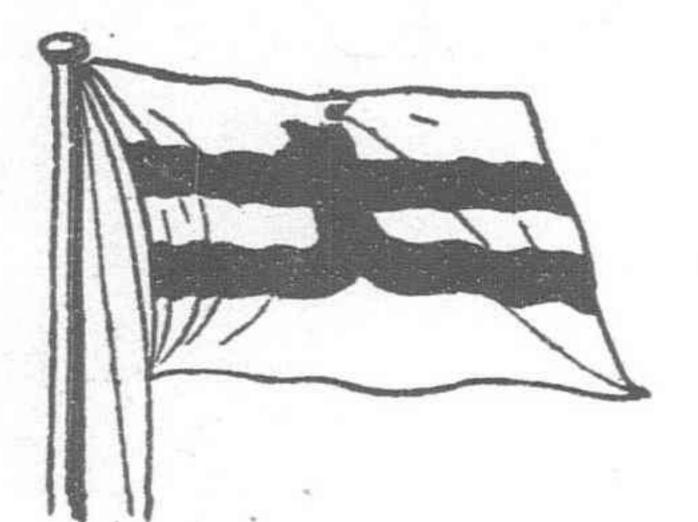
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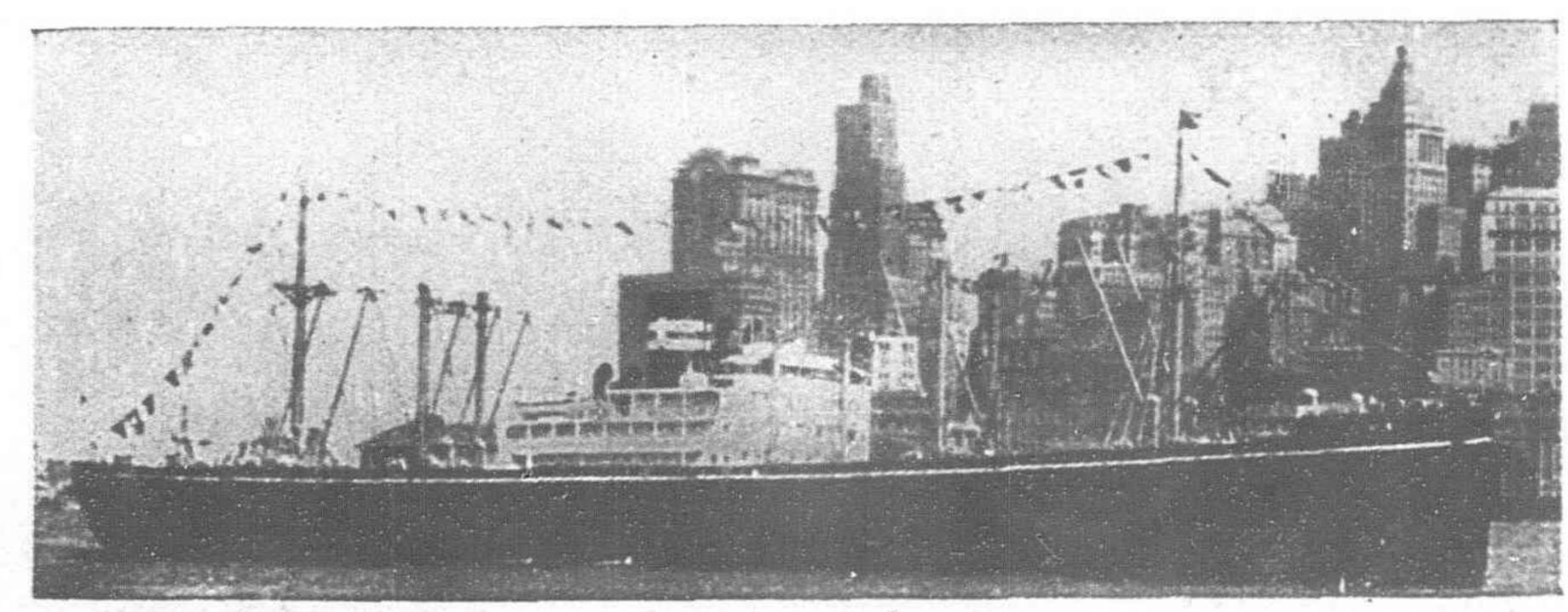
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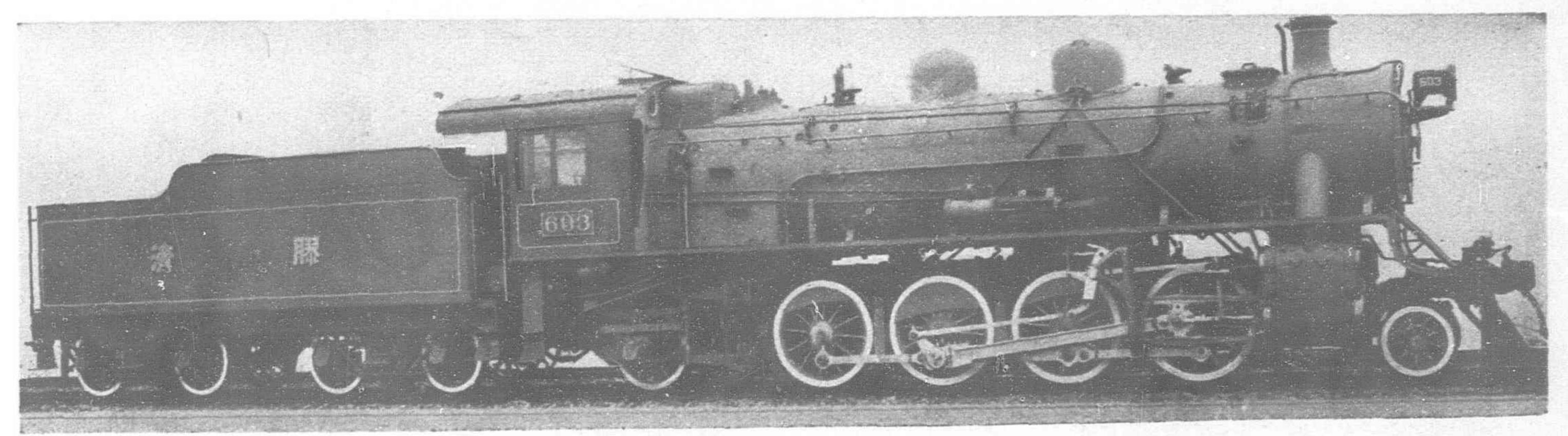
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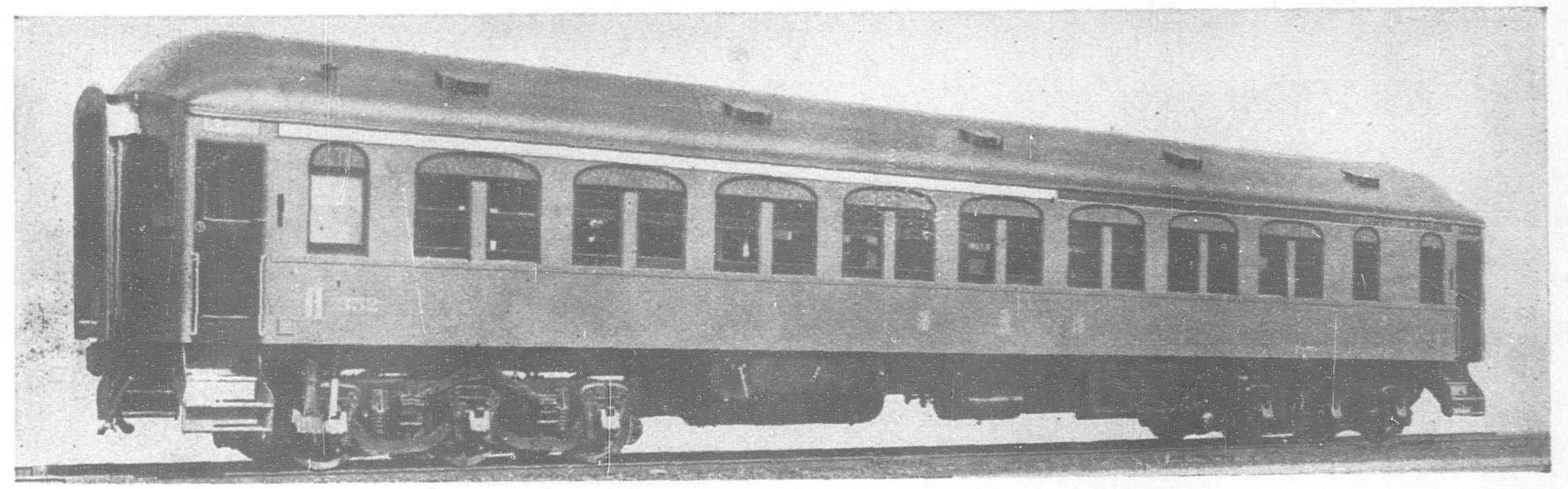
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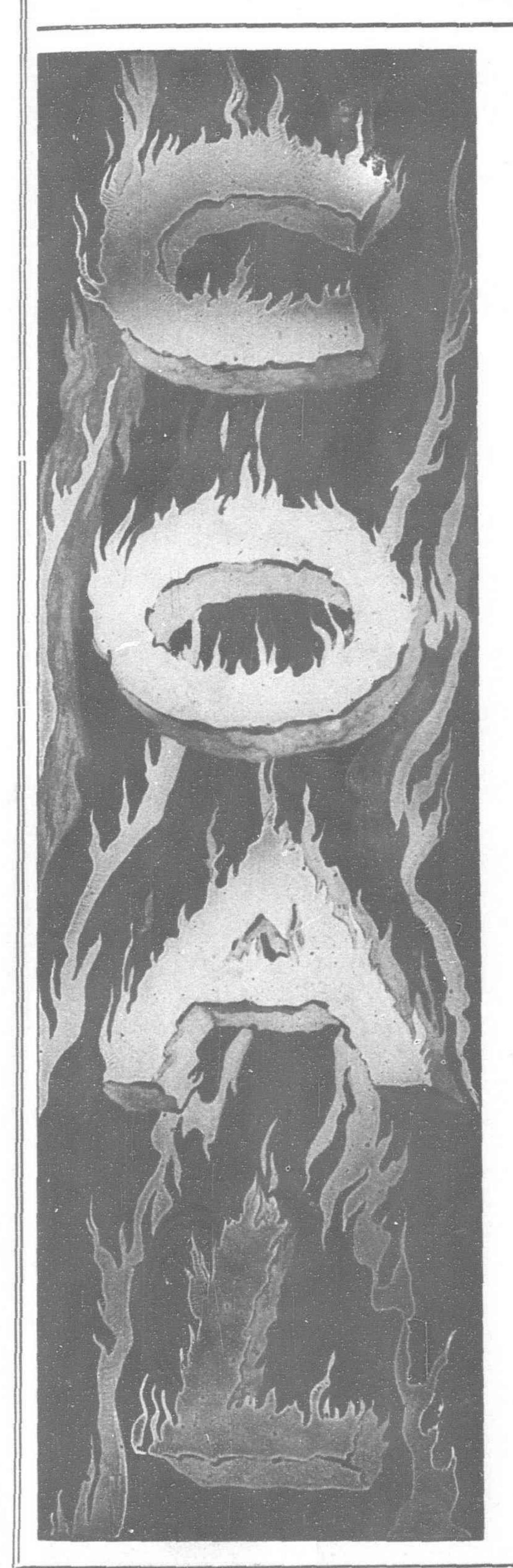
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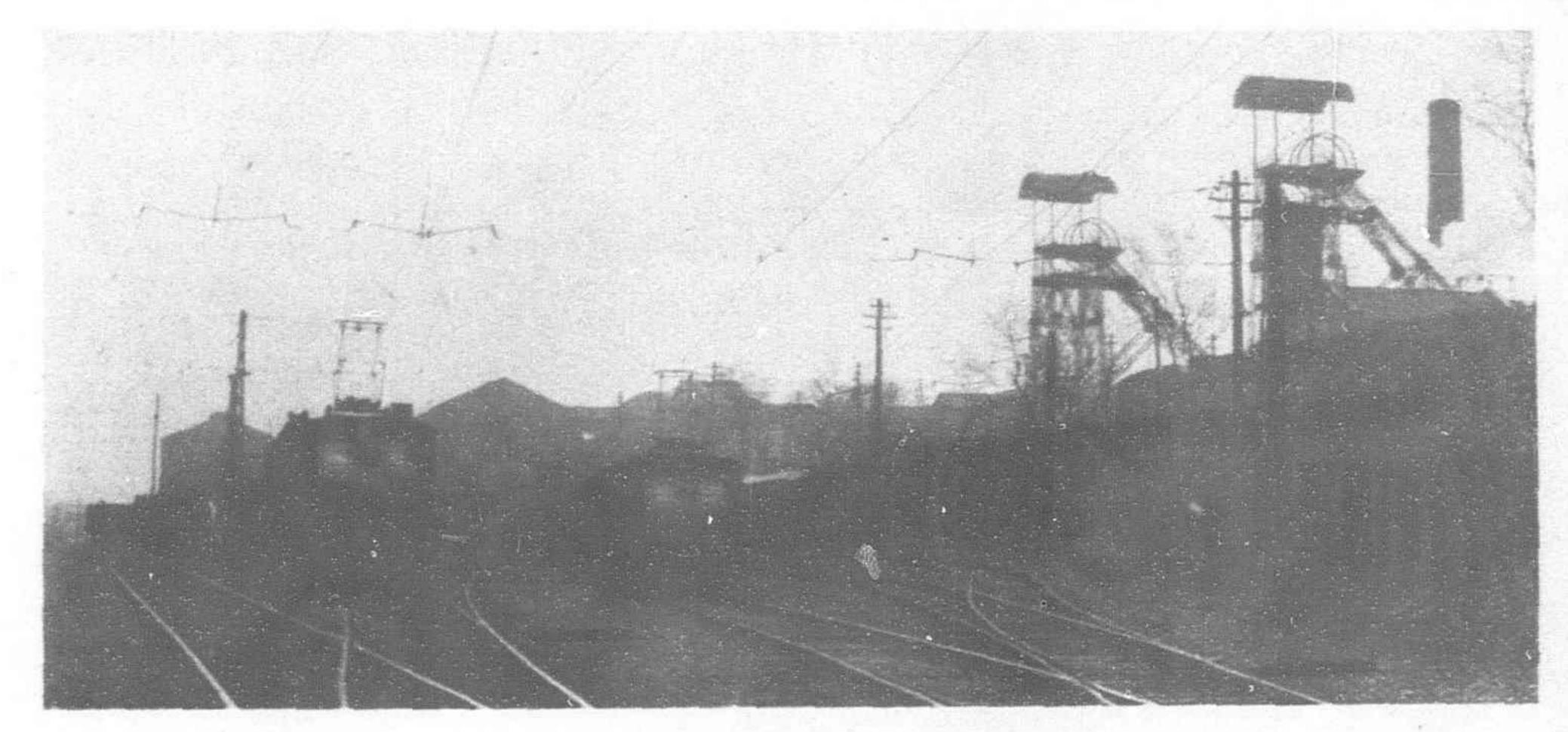
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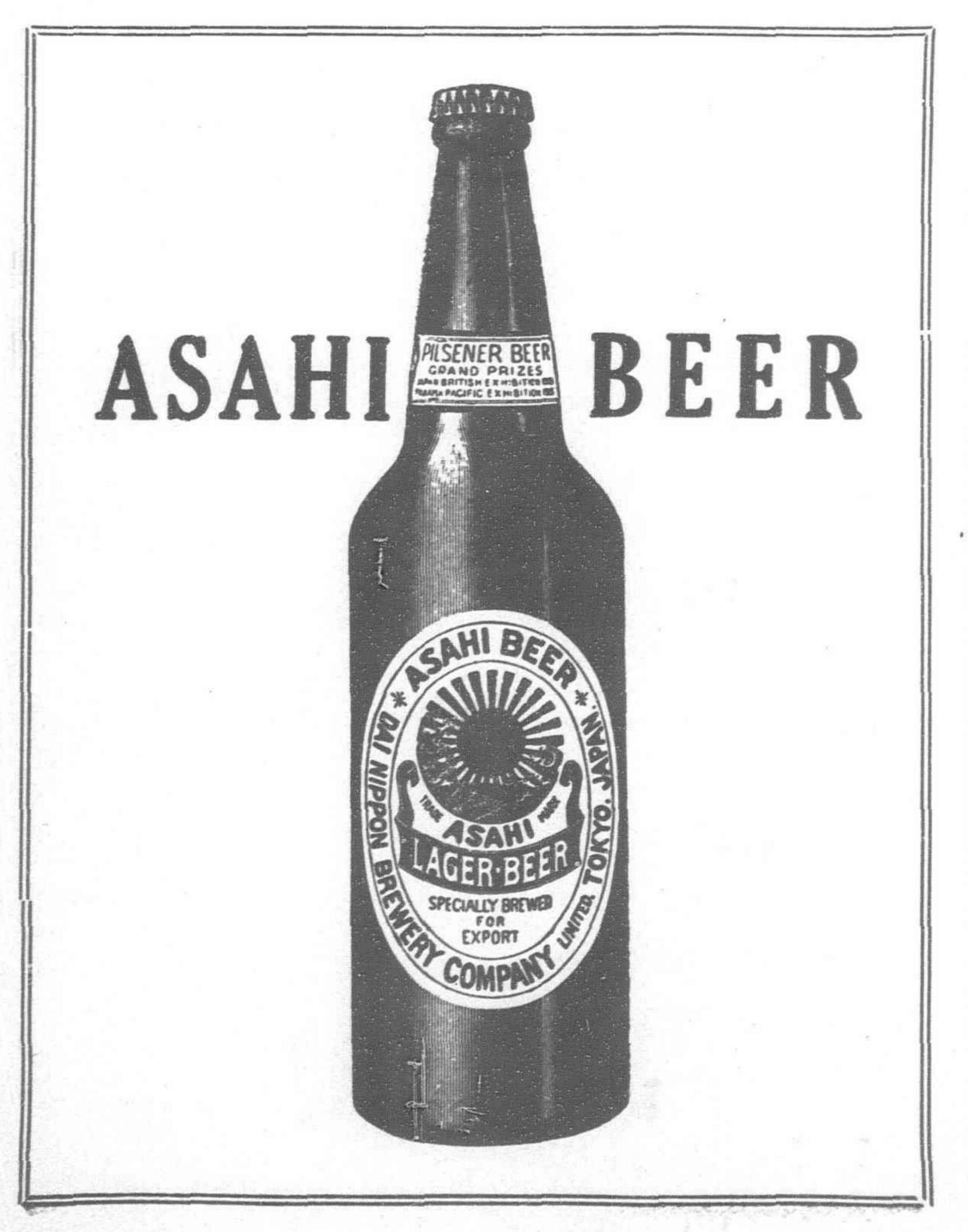
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Number of Doublers: 120,080
Number of Looms: 4,604
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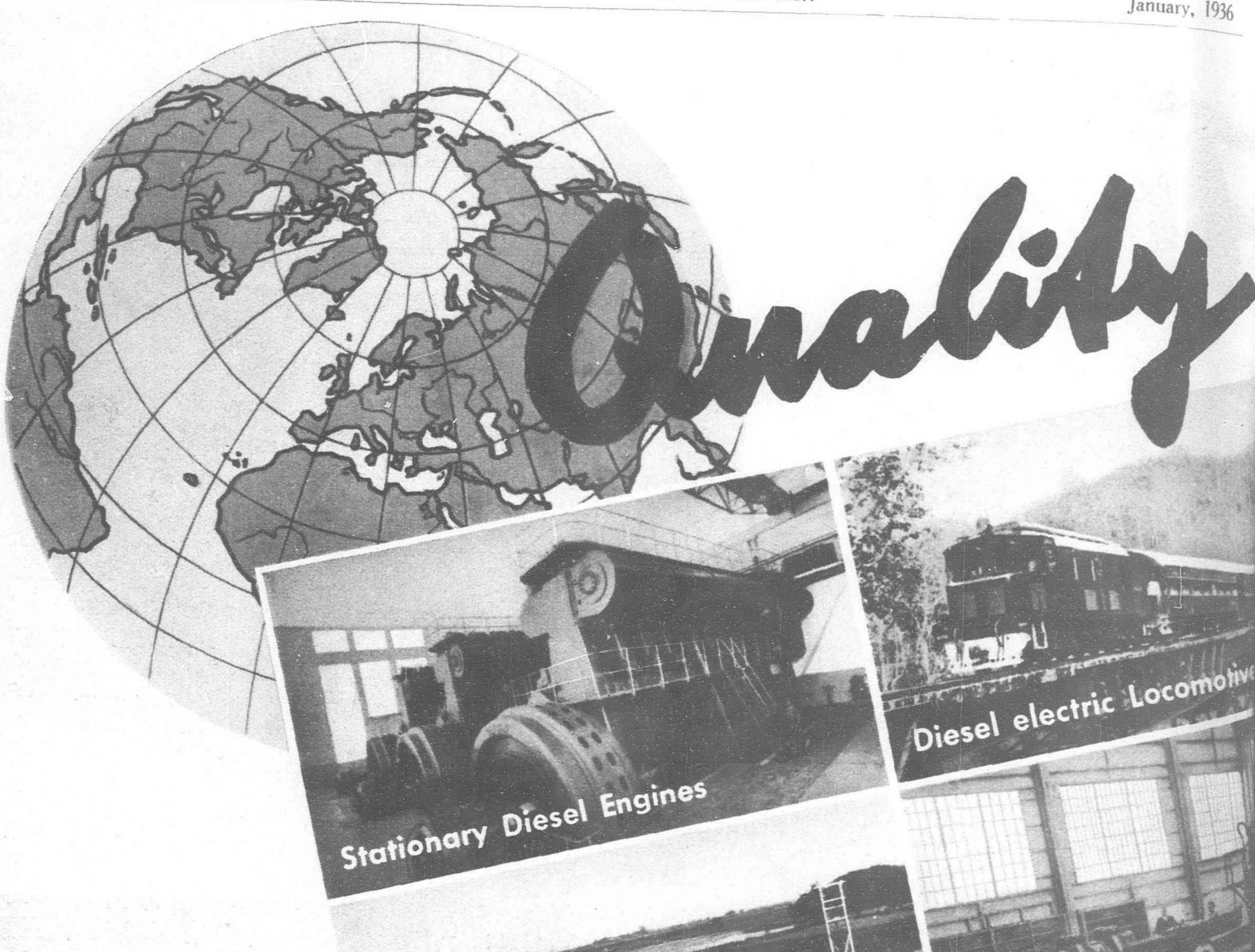
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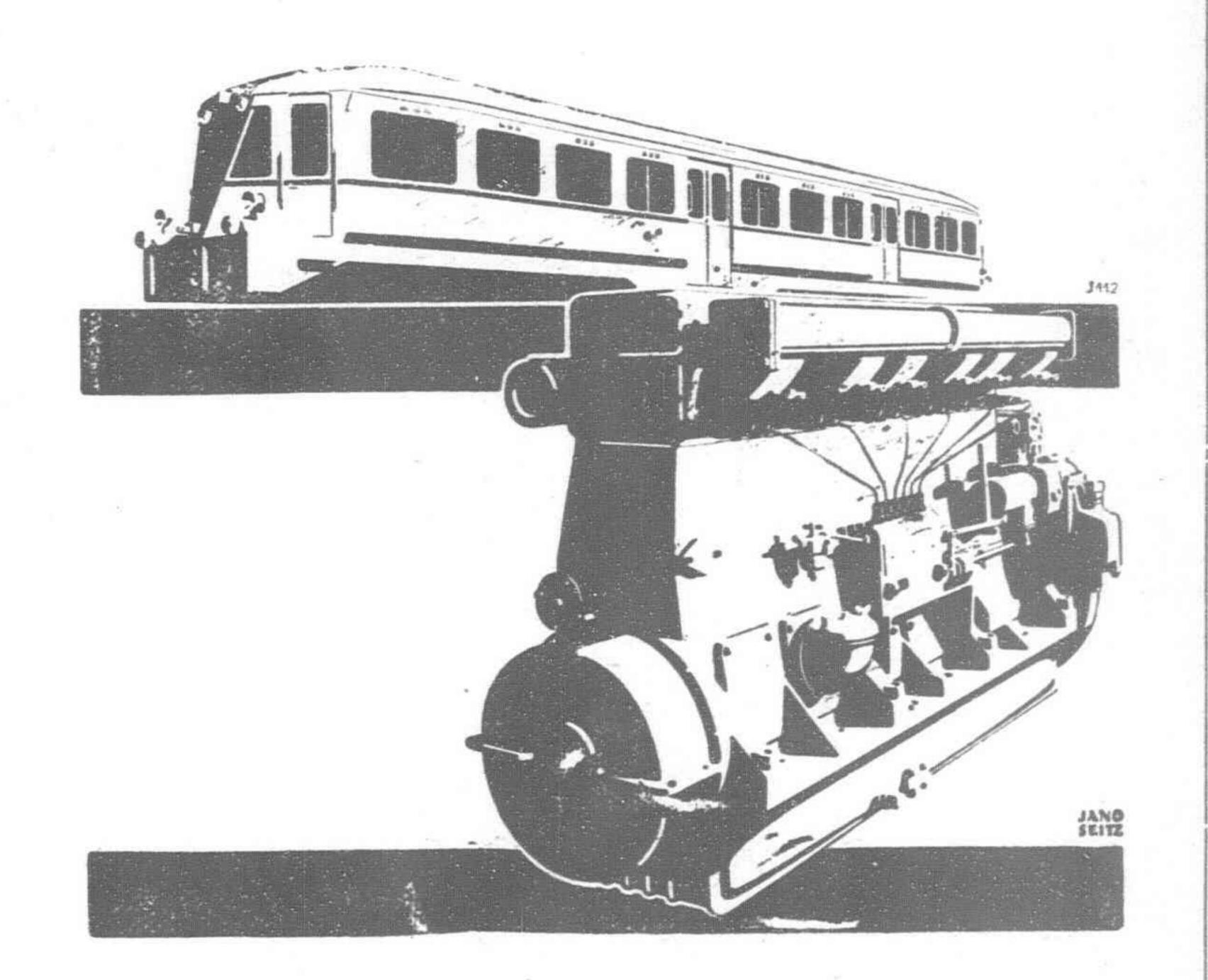
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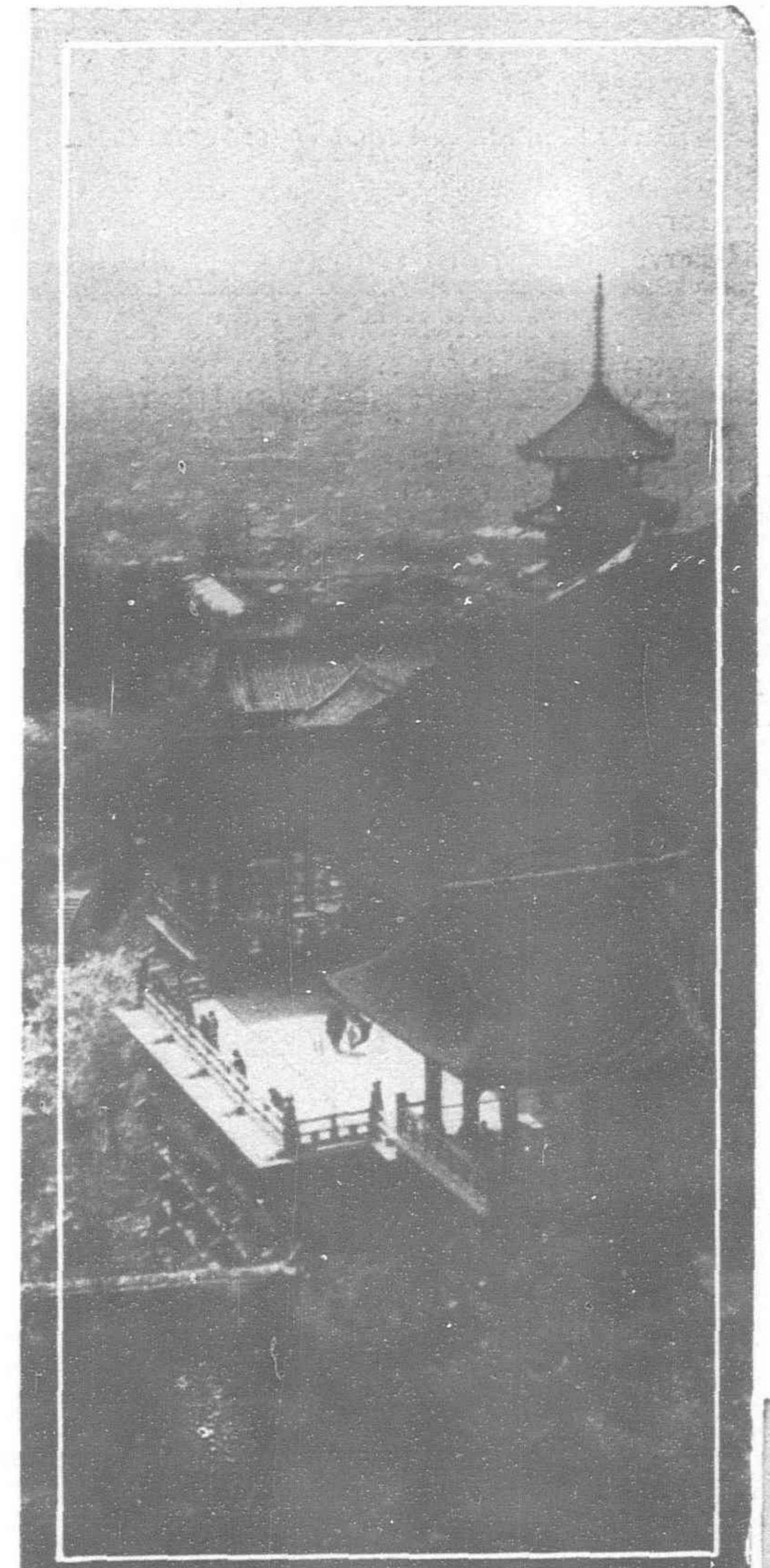
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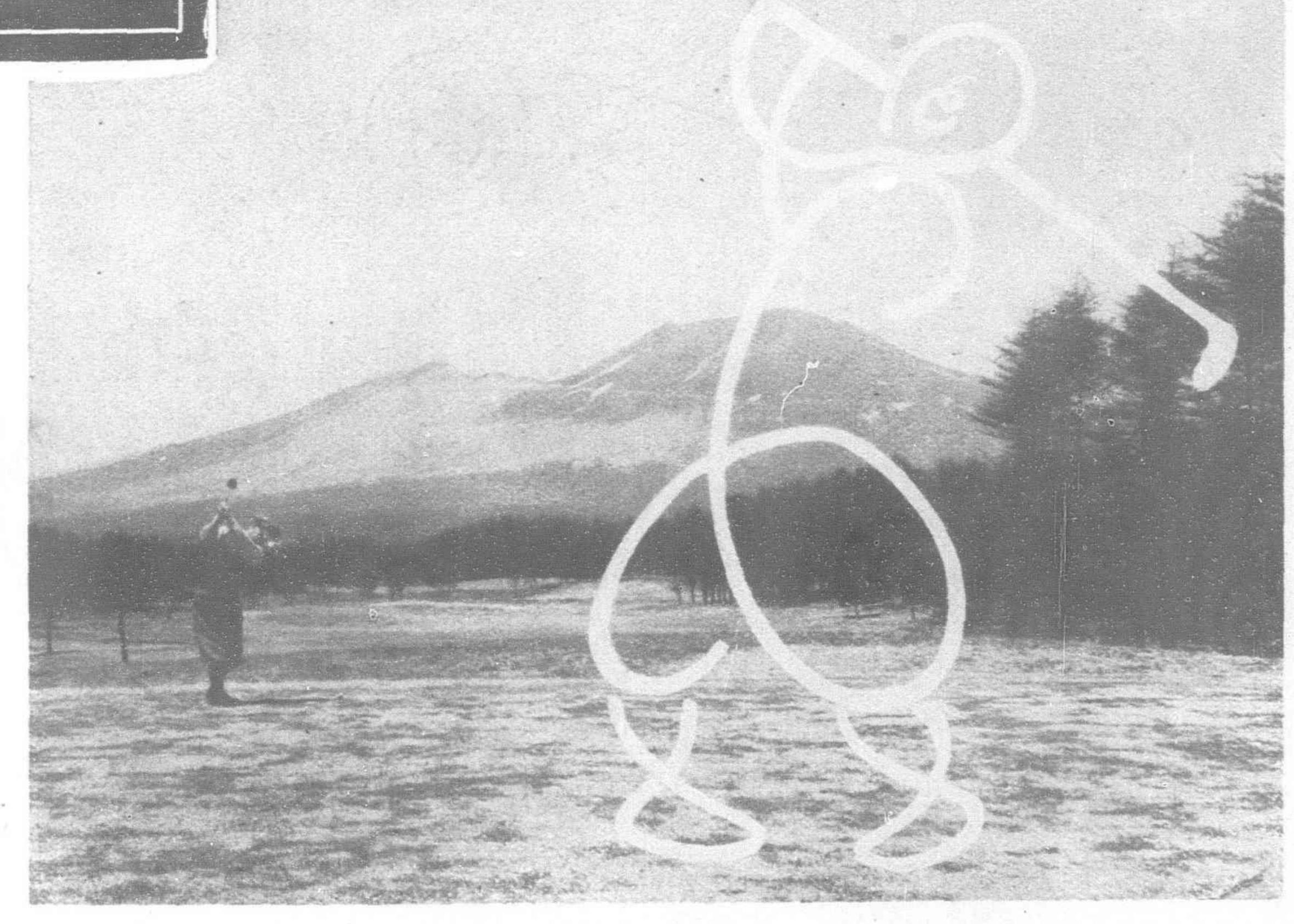
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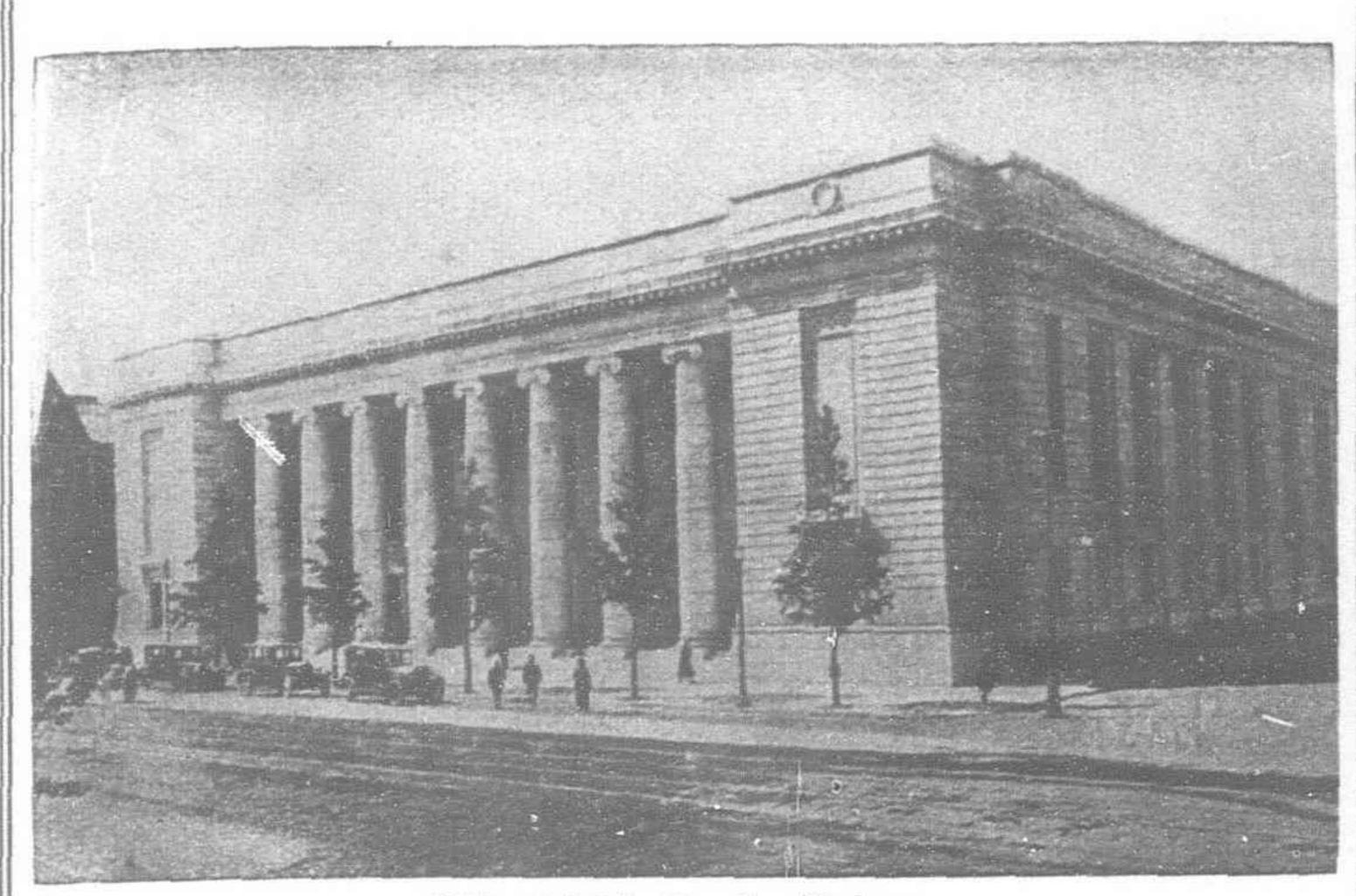
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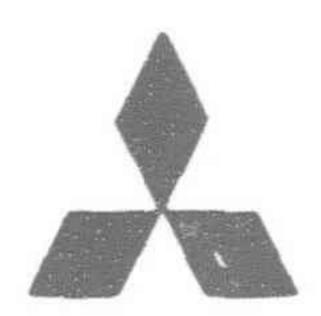
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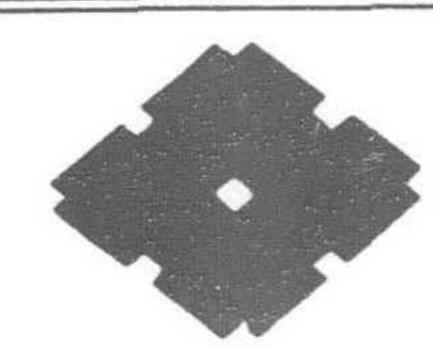
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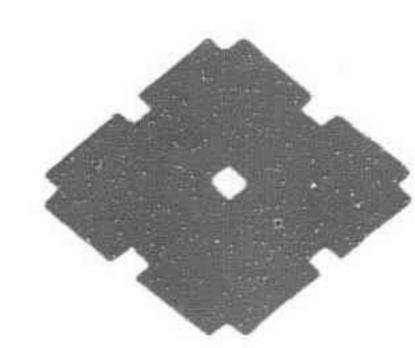
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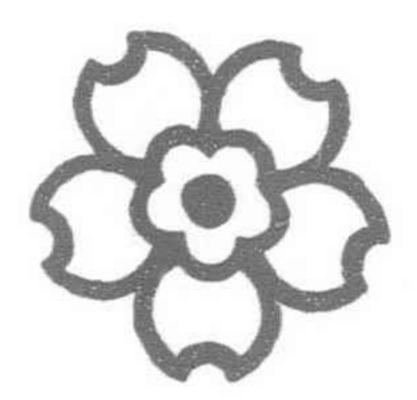
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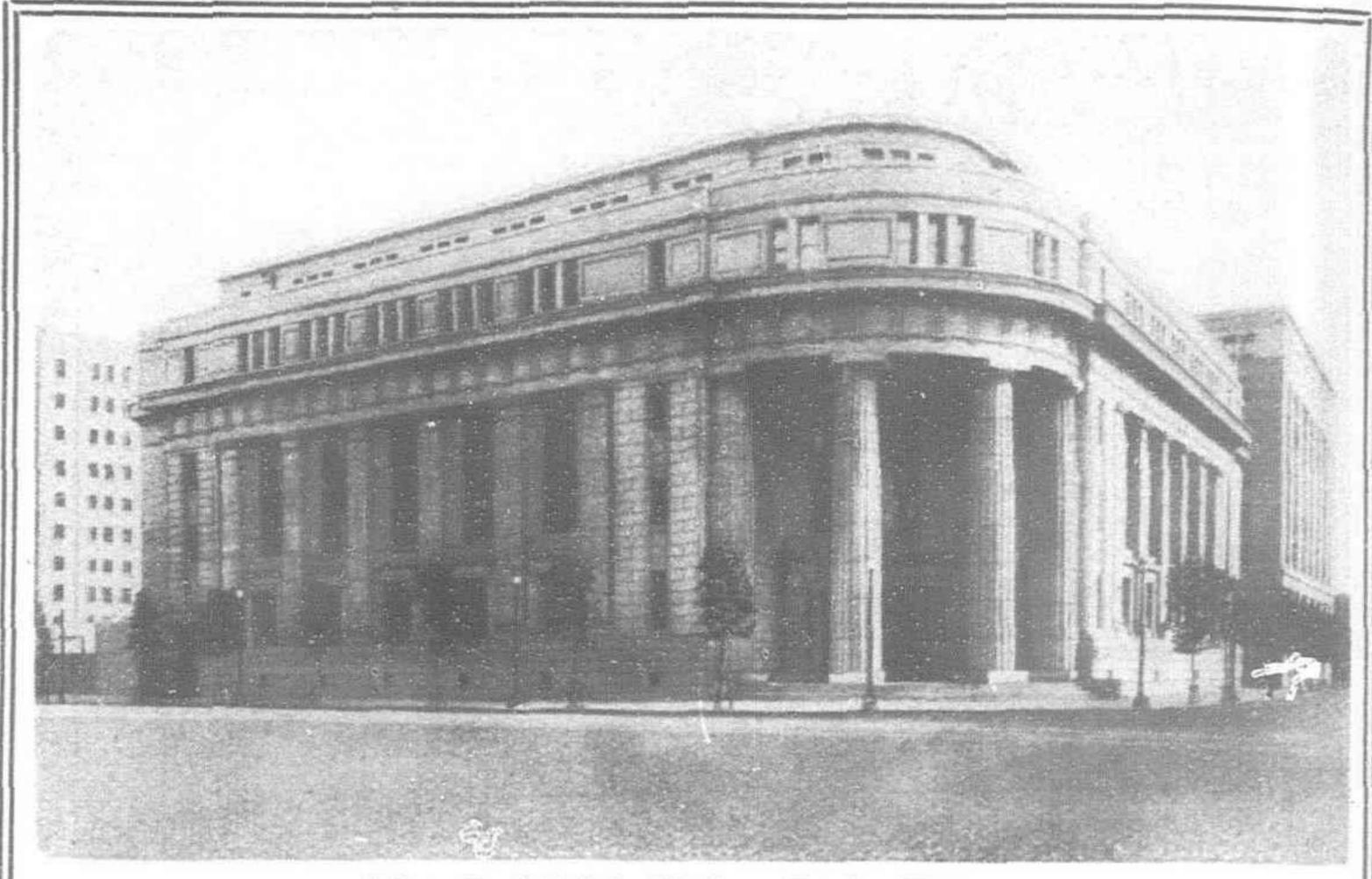
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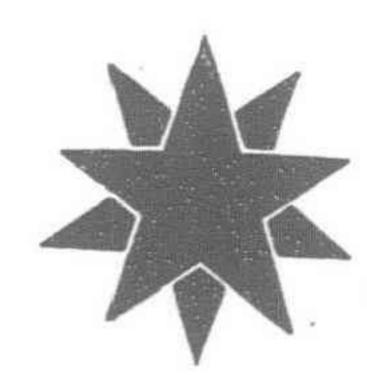
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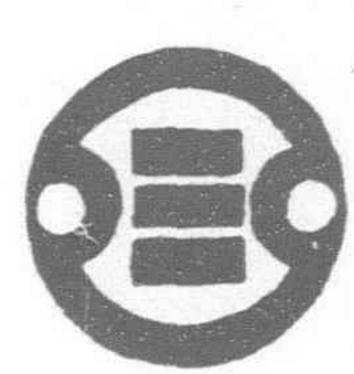
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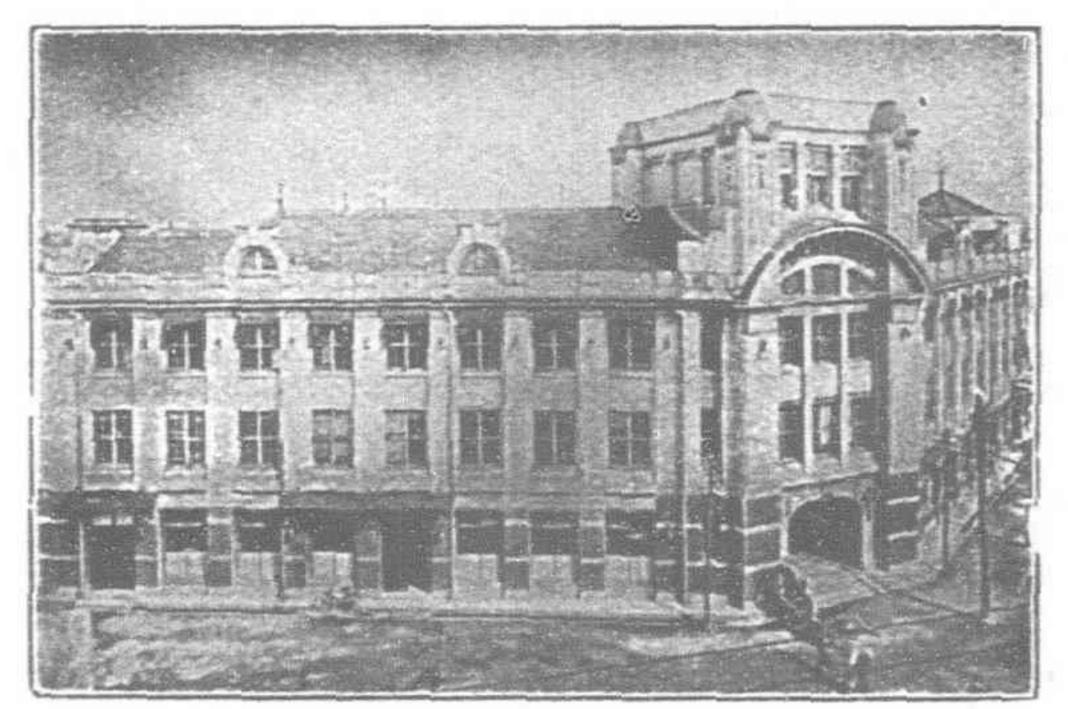
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Grand Total	* *										262,900	kw.
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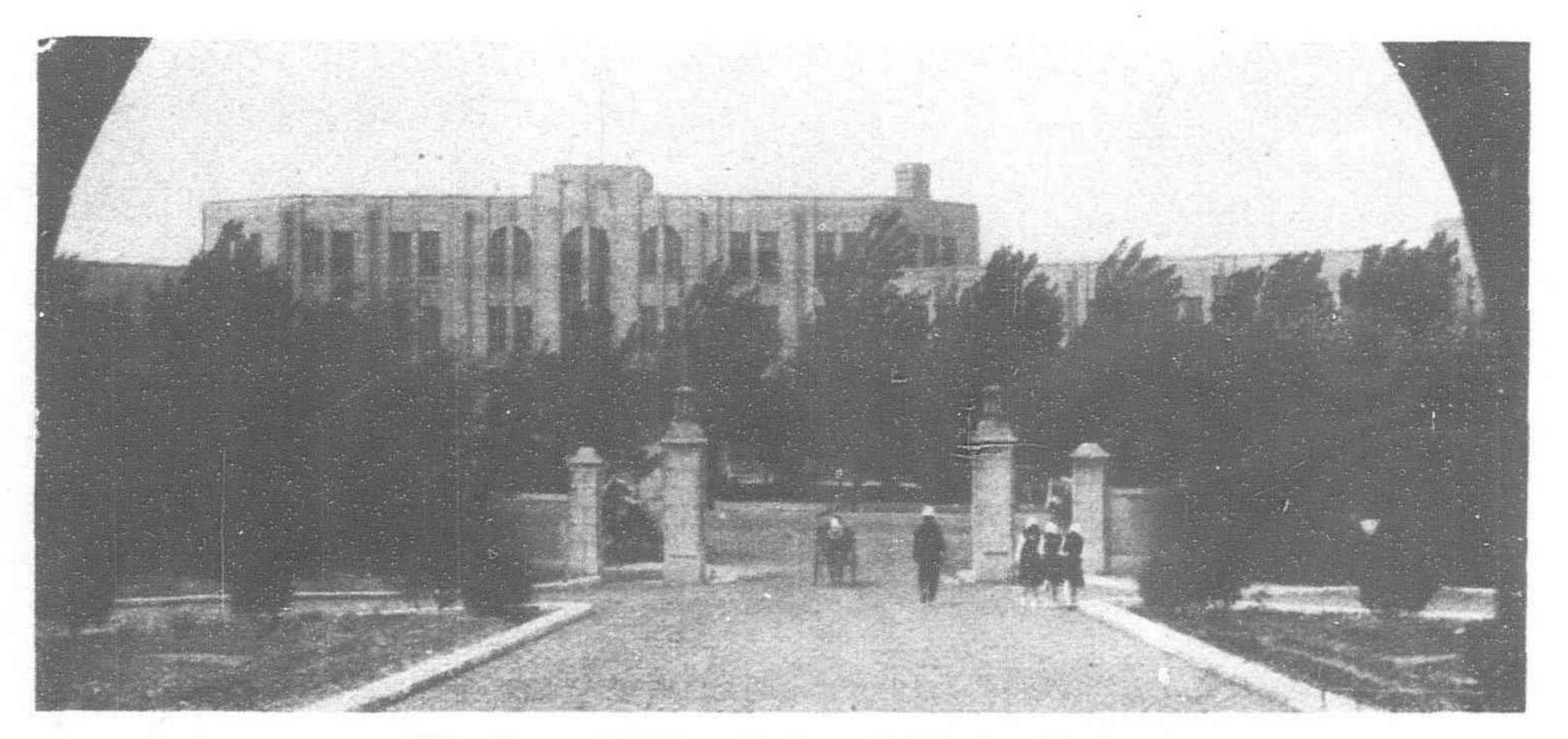
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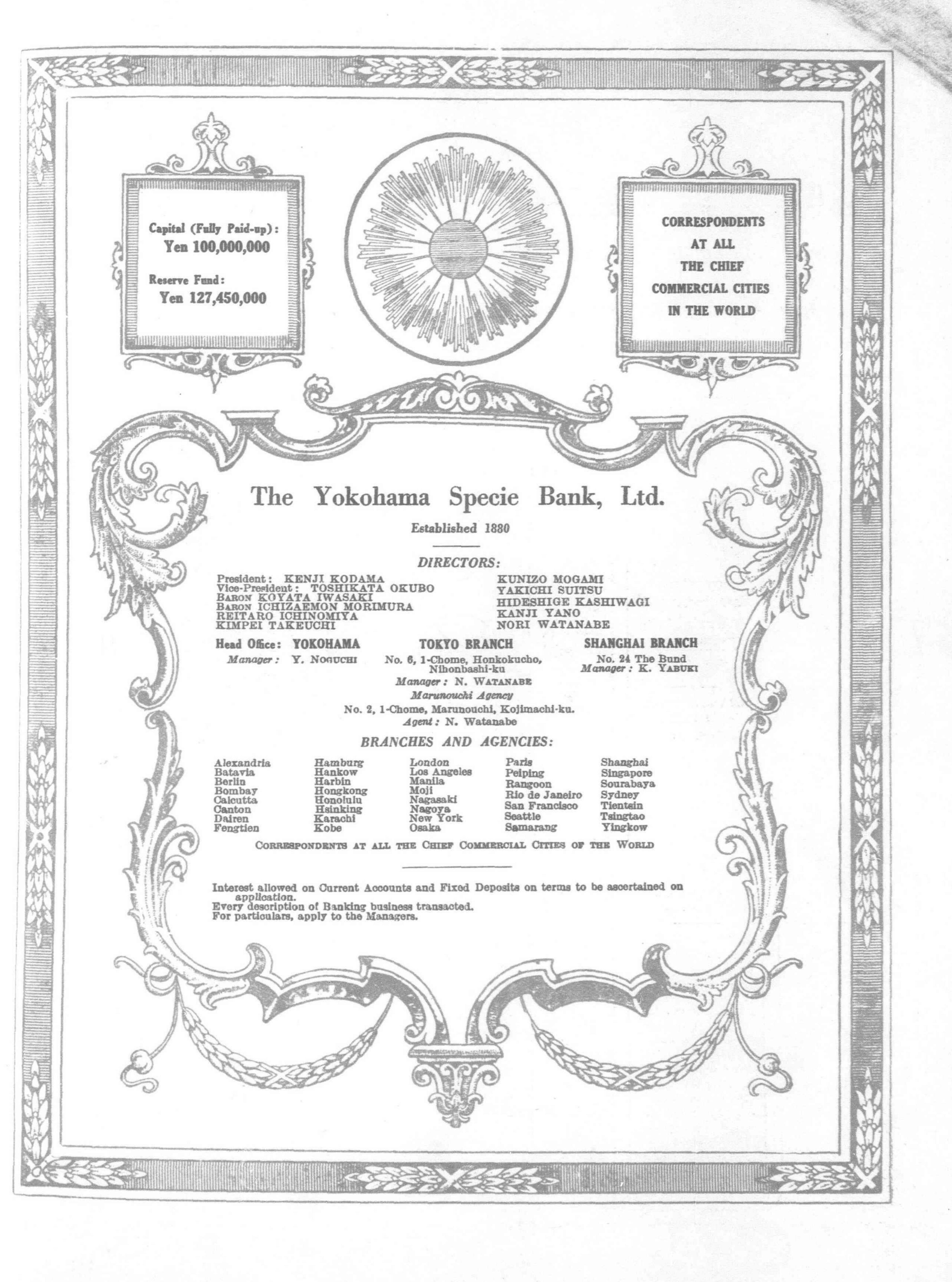
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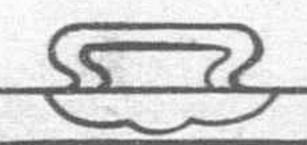
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ENGINEERING

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Vol. XXXII

SHANGHAI, JANUARY, 1936

A MESSAGE OF PEACE

The Address of Mr. Koki Hirota, Minister for Foreign Affairs, at the 68th Session of the Imperial Diet, January 21, 1936

"'It is to be regretted that there are abroad statesmen of repute who seem determined to impose upon others their private convictions as to how the world should be ordered, and who are apt to denounce those who oppose their dictates as if they were disturbers of the peace." In these unmistakable words, Japan's Foreign Minister sets forth the answer of his Government to the open attacks on its policies and covert allusions to its aggressive designs on other nations. Only by reference to the speeches and statements of spokesmen for the League, for Great Britain, for the United States, for Soviet Russia and for China, can his message be interpreted. In it, we hear the answer of Japan to Anthony Eden's speech of January 17, hailing the rebirth of the League and its determination to impose collective security at all costs, the challenge of the doctrine of non-recognition and the insistence of the legalists that all changes in the status quo must commend themselves to the collective judgment before they may be regarded as permanent. Following closely after the speeches of Molotov and Tukashevsky before the All-Union Central Executive Committee in Moscow on January 16, it clearly defines Japan's position vis-a-vis Soviet Russia.

Just two days previous to Mr. Hirota's address, the Japanese War Office made public the estimates of the land forces of Japan, China and Russia, showing the Soviet army was now 1,600,000 regulars, 660,000 replacements, 160,000 G.P.U. and 90,000 Transport Guards, a total of 2,510,000 under arms. The Chinese armies number 2,250,000, exclusive of communists, bandits and irregulars, while Japan has limited her standing army to 250,000. These figures tell their own story. Twenty to one are the combined paper odds against Japan on land and ten to three, the combined odds on the sea.

Yet with these figures before us, we are told that Japan is preparing to invade Siberia, extend a

protectorate over Mongolia, shove a wedge in between China and Russia as far as Hsinkiang, lop off province after province in China Proper until she has swallowed the whole country, grab the Philippines, kick the French out of Indo-China, make a dependency out of Siam and dig a canal across the Kra Peninsula to put Singapore out of business, then seize the Dutch East Indies following this by conquering Australia and then, Good Bye to the good, old U.S.A. And there are people who believe it! No wonder the Japanese are proud of themselves. When an army of 250,000 can give the world the jitters, with China and Russia outnumbering them twenty to one, quaking in their boots, appealing to the League and the United States to fight their battles for them, and the United States and Great Britain calling upon each other to stand shoulder to shoulder against this terrible menace, it is not surprising that the Japanese fighting services have developed a supreme confidence in their ability to stand alone. Nowhere in the world of to-day, in fact in no place in history can such a picture be duplicated.

All the Brobdingnagians have come together in a solid phalanx to withstand the attack of the battalions of Lilliput. "Japan, the aggressor," "Japan, the Militarist," "Japan, the Conqueror," "Japan, the Disturber of the Peace," thunder the statesmen and the press of the world. But the formula of her aggressiveness is contained in the above figures; 20 to 1 against her on land and three

to one on the sea!

Speaking for his people, outnumbered, maligned, slandered and misunderstood, placing again on record their national aspirations and obligations, Mr. Hirota reiterates Japan's peaceful intentions while declaring in no uncertain manner her determination to keep the menace of Communism from encroaching on her sphere.

ADDRESS OF MR. KOKI HIROTA

HAVE the honor to report and state my views on the latest

developments in Japan's foreign relations. With the further advance of this country's international position in recent years the greater have grown its responsibilities. Fortunately the world is being brought, though gradually, to recognize Japan's sincere desire to contribute toward the establishment of world peace, and more particularly our whole-

hearted endeavors towards the stabilization of East Asia, while our friendly relations with the neighboring countries are being by degrees put on a solid basis.

In view of the most gratifying progress of Manchoukuo, it has been décided to abolish by stages Japan's extraterritorial rights in that country, and concurrently to readjust our administrative rights in the railway zone, and to contribute thereby toward her development as an independent nation. Whereas the close and inseparable relationship between our two countries is rooted in the fundamental

fact of the alliance for common defense concluded at the time of the establishment of Manchoukuo, the natural circumstance of our mutual interdependence in the economic field has led to the establishment of the Japan-Manchoukuo Joint Economic Commission. The unchallenged independence of Manchoukuo and her healthy growth now actually constitute an indispensable postulate for the stability of East Asia.

It is most desirous that she should continue to enhance her international prestige and promote her friendly relations with her neighbors. In other words, best efforts must be put forth for the readjustment of the relationships between Japan, Manchoukuo and China on the one hand and to the proper adjustment of the relations between Japan, Manchoukuo and the Soviet Union on the other.

As for the relations between Japan, Manchoukuo and China, though some improvements have been effected, an urgent necessity is felt to regulate further the tripartite relations and put them upon a normal footing so as to strengthen the foundations of the peace of East Asia. The Japanese Government, have, therefore, formulated after careful deliberations a definite program for their policy toward China. This program consists mainly of the three following points.

The first point is concerned with the basic readjustment of the Sino-Japanese relations, by which we aim to bring about the cessation by China of all unfriendly acts and measures, such as have been hitherto adopted. In fact, what we want is not only such a

negative attitude on the part of China but her active and effective collaboration with Japan. Antagonism between Japan and China, which obviously works to the disadvantage of both, is a thing intolerable from the larger viewpoint of East Asia. It would be most regrettable should China resort to unfriendly actions, or to her habitual policy of playing off a third Power against this country, thus undermining the stability of East Asia. On the other hand, if she should come to a full realization of this point we would, of course, be ready to extend to her our moral and material support for her advancement. Taking a long view of the situation, we have remained patient and forebearing, inviting China's self-reflection and her re-

alization of her own responsibilities in East Asia, and waiting for a change in her policy toward our country.

It is within the past year or so that China has shown her willingness to improve the Sino-Japanese relations. At the last session of the Diet we declared our policy of non-aggression and non-menace toward the neighboring countries, and set out to regularize the relations between Japan and China and to readjust the mutual interests of the two countries. Nevertheless, I am sorry that our endeavors in this direction have not brought forth fully satisfactory results so far.

The rehabilitation of the Sino-Japanese relations must necessarily be attended by the regularization of the relations between Manchoukuo and China, because in North China particularly the interests of these two countries and of Japan are directly and closely bound up.

Owing to the fact that the Chinese Government has not recognized Manchoukuo which is contiguous with North China, and also to the singular local circumstances that have prevailed in North China itself for long years, a situation arose in that region last year, which appeared disquieting for some time. More recently, however, the tension has been considerably relaxed through the establishment of the Hopei-Chahar Political Council. At any rate, it is plain that no stability can ever be attained without the adjustment of the relations between Japan, Manchoukuo and China.

In the fulfilment of this purpose lies the second point of our program. We are convined that as the first step to a complete and final adjustment of relations between Japan, Manchoukuo and China, the Chinese government should recognize Manchoukuo, and the two countries should open diplomatic intercourse and harmonize their interests. It is hoped that the day will soon arrive when this is done. In the meantime we believe a temporary measure should be devised in order to prevent any untoward eventuality in the relations between the three countries.

The greatest of all difficulties confronting China to-day is, I believe, Communism, which has found a ready soil for propagation in the unsettled conditions of East Asia, and which has affected China most seriously, endangering not only her border regions but her internal social order itself. The rampancy of Communism in China seems to surpass all our knowledge. The red menace is, of course, not confined to East Asia, which has been selected as a field of action just at this time. The suppression of communist activities in our part of the globe and the liberation of China from the Red menace is, therefore, a matter of vital importance not only for China but for the stabilization of East Asia and of the world. Here in lies the third point. It is the desire of the Japanese Government to co-operate with China in various ways for the eradication of Communism.

These, then, are the three points of our program. They involve no new or startling principles. In fact they are nothing

but the most obvious and elemental concepts that must underlie the great undertaking of insuring the stability of East Asia, and as such they should, I do not hesitate to say, constitute a common cause of all nations in East Asia.

The Chinese Government not only has indicated its concurrence with our views, but has proposed recently to open negotiations on Sino-Japanese rapprochement along these lines. Although, much to our regret, there are at this moment student agitations in China which contravene the very spirit of our program, it is expected that the present situation will soon be rectified by the Chinese authorities and an auspicious atmosphere for the opening of the negotiations will prevail. The

Mr. Koki Hirota, Japan's Minister for Foreign Affairs

Japanese Government have communicated their acceptance of the Chinese proposal, and are awaiting the notice from the Chinese Government of the completion of its preparations. With the progress of these negotiations we shall be able, I am confident, to lay the foundation for a thorough readjustment of Sino-Japanese relations.

Turning next to the relations between Japan, Manchoukuo and the Soviet Union, I must say that the Japanese Government have always done their best to secure peace and friendship. We have succeeded in eliminating a long-standing obstacle to that purpose through the conclusion of the agreement for the transference of the North Manchuria Railway. In the light of the fact that Japan, being committed to the common defense of Manchoukuo, is automatically and directly affected by the political and military relations of that country with its neighbor states, we are obliged to pay special attention to the tripartite relations of our country and Manchoukuo and the Soviet Union.

Along the extended common frontier between the two latter countries, there are spots where the border line is not clear, giving rise to frequent troubles. With a view to settling such frontier disputes, there is now the question of setting up a mixed commission while the Manchoukuo Government insists upon clarifying first the obscure points in the border line. With regard to the relations between the three countries, what we are most concerned

about is the excessive military works which the Soviet Union is erecting in her outlying possession-namely in East Siberia, arousing thereby the public feeling strongly not only in Manchoukuo but also in this country. We are calling the attention of the Soviet authorities to this matter whenever we have an opportunity to do so.

The Japanese Government attached great importance to the developments of the Naval Conference at London which was opened on December 9, last year, and from which our delegation has now been withdrawn. The fundamental policy of the Japanese Government at the conference was same as at the time of the Preliminary Conversations held at London two years ago. Last October when the British Government, engaged in preparations for the conference, sought the views of our government regarding the plan for the declaration of building programs and the question of qualitative limitation, we took occasion to make clear our stand by stating:

"The true key to the maintenance and the promotion of world peace can be discovered only when the Powers mutually give full consideration to one another's vital needs and natural requirements and when they carry out a thorough limitation of armaments in such a way as to make a state of non-aggression and non-menace prevail among them and that the Great Powers, therefore, should

be the first to strive unremittingly in these directions in order to forward the cause of peace.

"The fundamental policy of the Japanese Government regarding naval disarmament, has no other object than the realization of such a limitathorough-going tion."

It is in this spirit that the Japanese delegation proposed, at the present conference, a plan for setting up a common upper limit at the lowest possible level and for the abolition or a drastic reduction in such vessels of offensive type as capital ships, aircraft carriers and A class cruisers. Despite the earnest efforts of our delegation, this just and fair proposal of Japan was not accepted by the Powers. Moreover, since it became evident that the proposals submitted by the other delegations did not meet our funda-

the conference in an amicable manner after settling such question as could be settled and concluding agreements thereon. That proposal was also rejected, whereupon our delegation had no other alternative than to withdraw from the conference.

A survey of the present world situation reveals the existence of much unrest and friction in many quarters and a tendency on the part of the Powers to expand rather than to curtail their armaments -which is so detrimental to the cause of disarmament. Therein lies, perhaps, one of the reasons why Japan's proposal for a sweeping reduction has not been accepted. However, it is scarcely necessary to say that, regardless of whether or not there is a disarmament treaty, the Japanese Government, devoted to the principle of non-aggression and non-menace, have no intention of doing anything to stimulate a naval competition, or of altering their policy of co-operation with the Powers in arms reduction for the cause of world peace.

Whatever may be the outcome of the present conference, the friendly policy of this country toward the great naval Powers will undergo no change, especially toward Great Britain and the United States with which we have enjoyed a historic friendship for many past decades. Since Japan and America are geographically so situated that they possess each a special sphere of activity of their own, it is impossible that the two nations should ever be brought to a collision. With Great Britain, we would most naturally seek to adjust our interests in various parts of the globe, and to further our traditional amity. Out intercourse with the British Dominion States is steadily growing in intimacy with corresponding increase in trade. To Australia we sent last year Ambassador Debuchi as a goodwill envoy who went there to return the visit of Sir John Latham on a similar mission, and who also made a tour of New Zealand to promote Japan's friendly intercourse with that nation. In the South Seas countries we are endeavoring to cultivate peace and friendships for the sole purpose of the development of trade and economic relations. It is with this purpose in view that we sincerely hope for smooth progress of the newly inaugurated Commonwealth of the Philippines.

The uninterrupted expansion of our foreign trade from year to year, coupled with the steady growth of the productive power of our industries, is a most encouraging aspect of these times. Our trade, expanding both in exports and in imports, may be said to exemplify the principle of mutual benefits in international commerce. It goes without saying that the healthy development of

trade among nations is

indispensable to the promotion of international goodwill and the economic well-being of the world. In spite of this evi-

dent truth, many countries are still, I regret to say, continuing their restrictive measures of which kinds various obstruct the freedom of trade. To a modern nation, particularly such as our own with a vast population but meagre natural resources, the assurance of the source of raw material and of the market of finished products is the condition of prime necessity to its economic existence. really believe that such assurance alone render possible the maintenance of political stability among nations. To cramp up the world by the reckless erection of high trade barriers will only serve to invite complications and conflicts,

" MILITARISTIC JAPAN

Neighboring Armies Compared

The Japanese War Office, on January 15, made public estimates of the land forces of the leading nations, part of which follow:

Nations	Totals	Details	Principal Units	Remarks
Japan	250,000		17 Divisions	The maximum at any time of the year is 250,000.
China	2,250,000 (Excluding 200,000 Communist troops.)		198 Divisions 50 Brigades 6 Cavalry Divisions 9 Cavalry Brigades	Bandit troops, though numerous cannot be estimated.
U.S.S.R.	1,600,000	Regulars and People's Army, 690,000. People's Army replacements, 660,000 O.G.P.U., 160,000. Trans- port guards, 90,000.	Infantry Divisions, 15 Cavalry Divisions. People's Army 50 Infantry	Air Force included in standing army.

mental policy, our delegation proposed as the last resort to terminate and mean a retrogression of civilization. On the other hand, the freedom of the movement of men and goods throughout the world and the open door and equal opportunity to natural resources, if that should be realized, would automatically create an atmosphere of freedom and mutual confidence, and no doubt contribute vastly toward the furtherance of universal peace and brotherhood.

> The Japanese Government are carrying on friendly negotiations with the Governments of other countries for the purpose of adjusting our mutual interests and promoting trade and commerce as much as possible. During the past year we were unfortunately forced to invoke the Trade Protection Law against Canadian imports for some months, but I am happy to state that the application of that law has since been stopped as a result of the amicable agreement concluded between the two countries.

> It is to be regretted that there are abroad statesmen of repute who seem determined to impose upon others their private convictions as to how the world should be ordered, and who are apt to denounce those who oppose their dictates as if they were disturbers of peace. No one is qualified to talk world peace unless he not only knows the national aspirations and obligations of his country but also understands and appreciates the standpoints of other (Continued on page 17)

American Trade Prospects in the Orient

Comments on the Report of the American Economic Mission to the Far East

NE of the earliest friends of The Far Eastern Review was the then Secretary of Commerce of the Philippine Commission, the Honorable W. Cameron Forbes who assumed office two menths after this publication made its first appearance in Manila, April 1904. Much of the hard work of establishing itself was made easier by the friendly encouragement and support of the energetic, far-sighted New England businessman whose fortune was founded in the China trade and who looked forward to a revival of that trade under the Open Door Doctrine and the possession of a strategic and commercial foothold in the

Philippines. During his long term of office on the Philippine Commission and then as Governor-General, he laid the foundations of the material progress and prosperity the Islands now

enjoy.

Much water has passed under the bridges since his resignation in 1913. The edifice so firmly and painstakingly erected by a succession of Republic administrators, of which he was an outstanding personality, became undermined by new theories, programs and policies conceived and enacted into law during the Wilson administration. Wood-Forbes Mission of 1921, to investigate and report on these changed conditions and the subsequent appointment of Mr. Forbes as Ambassador to Japan at a time of great international stress, gives to him a personal experience and understanding of Far Eastern problems such as no other American statesman has enjoyed. At all times his wise counsel and recommendations have been sound and constructive. If The Far Eastern Review ventures to differ from any views advanced by Mr. Forbes on Far Eastern affairs, it is simply that a closer contact with events has led us to view these problems from a broader humanitarian and liberal angle rather than from a narrow American trade standpoint.

It is in this spirit that we offer the following commentary on the Report of the American Economic Mission to the Far East, issued by the National Foreign Trade Council and to

state at the outset, that such divergence of views is confined to the one point emphasized in the last paragraph of the Mission's

Report on China, which says:

"The Mission is of the opinion that the present Chinese Government, with the new life evident in so many striking directions, is entitled to the cordial co-operation and approval of all elements having at heart the welfare of China, the advance of civilization, and the peace of the Orient. It cannot close its report more fittingly than by bespeaking for the present Government of China, under its present enlightened leadership, all the encouragement and help which can be accorded by the Government and the people of the United States."

For a Mission that started out determined to be non-political and concerned solely with the commercial purposes in view and the cultivation of that goodwill so essential to harmonious trade relations this blanket endorsement of the Government in power is both diplomatic and necessary. With that conclusion, however, we cannot agree nor approve any policy that makes for the centralization of power in the hands of one man and his elevation to the overlordship of 500,000,000 people, no matter how essential his friendship may be for profitable orders and increased trade. With us, it is a question of principle.



The Hon. W. Cameron Ferbes

A Geographical Difference Only

We hold that the system of government now being forced upon the people of China is no different from those other dictatorships in Europe which have become a menace to the liberties of all mankind. We cannot consistently criticize, condemn and prepare to fight against the spread of despotism in one part of the world and in the same breath uphold, glorify and bless another military oligarchy in another part simply because it suits our pocketbook to do so. Aside altogether from basic political principles upon which the American nation has been founded and which all straight-thinking Americans are obligated to uphold, such concentration of power in a country like China, merely perpetuates a vast spoils system for the enrichment of the privileged few at the expense of the oppressed masses. Even this stupendous organization for graft might be condoned if some progress was being made towards the goal of Democracy and Self Government. But, when after a period of two and a half decades of unrelenting internecine strife, resulting in the deaths of at least thirty million people, China is no nearer a strong centralized government, and there is every prospect that millions more of these peaceful, hard-working people must be sacrificed to perpetuate an old Oriental despotism under the guise of

a modern Republic and, we are told that the Government and the people of the United States should encourage and help the present "enlightened leadership" to consolidate its rule, we hold to the opinion that such support is contrary to every principle that should guide our diplomacy in dealing with such situations.

Will Durant says in his article entitled "The Threat to Civilization," in the Saturday Evening Post of December 21;

"From the Urals to the Rhine, and from the Baltic to the Mediterranean, liberty is dead. Under the camouflage of a new terminology, monarchy has recaptured in nearly all of the European states. The flamboyant Duce, the bristling Fuhrer, and the modest Secretary-General of the Union of Socialist Soviet Republics, are absolute monarchs in every detail except hereditary power; but they are too clever to call themselves Kings. Men are so ready to believe that they are improving upon their ancestors that they can be persuaded to embrace the most moldy of exhumed institutions if these are labeled and perfumed with new-fangled names. The reality is ancient, but the nomenclature is advanced; and therein lies much consolation for the modern man. He may not risk himself for an old idea, but he will die for a novel phrase."

In this opinion, we are in a hopeless minority, perhaps even a minority of one, but we nevertheless adhere to our principles and a belief that American sympathy and support to China to be effective, productive of good and in harmony with our ideals should be directed towards a more humane solution of China's problems.

And we add, unless they watch carefully their step, the American people will some day be asked to die to perpetuate the old, unchangeable conception of Asiatic despotism, camcuflaged behind the name of the "Republic of China." We fought in Europe to make the world safe for democracy and made possible the return of autocracy to where it has again become a menace to our liberties. We may some day be urged to go to war to help our "Great Sister Republic" and spread the light of Democracy throughout Asia. We hold no illusions about Democracy or Republicanism as applied to China. Generalissimo Chiang Kai-shek, with all his merits, is no different from Stalin, Hitler or Mussolini. Some day he will emerge as the founder of a new Chinese dynasty, as a Blue Shirt Fascist Dictator or some other purely Chinese title that means the same thing. He will be true to type.

A Hope that Failed

President Coolidge had the right idea when, in 1927, he became interested in the plan suggested by the late Mr. W. B. Walker of the Standard Oil Company. Walker advocated sending an unofficial mission of American businessmen to China, where they would call a conference which all war-lords would be invited to attend and then urged to compound their differences and unite under some form of central government representative of the whole. As an inducement to unite and disband their superfluous armies, the Commission would guarantee a loan to the Central Government that would enable it to put a pick and shovel into the hands of each soldier as his rifle and arms were turned in and start him to work on some of the many large-scale programs of railway and public works construction. This would have required the floating of a Disbandment Loan in addition to an equally heavy sum to carry through the rehabilitation program. At that period, the United States had the money and the plan seemed simple and feasible. The catch in the plan, which its originator failed to take into consideration, consisted in the Consortium Agreement under whose provisions such a loan would have to be participated in equally by Great Britain, France and Japan and the Commission sent to make the preliminary studies and prepare the ground, made representative of the Four Powers.

An otherwise practical and humanitarian idea conforming to American idealogy could not be applied because of international commitments which tied our hands and bound us to co-operate with the others in any scheme for the development of China. Theoretical international co-operation, as applied to China, has done more to retard the development of that country than the civil wars, which trace their origins to the inability of any central government to consolidate its rule because international co-operation for the development of the country and its railways has never worked out in practice. Failure, in 1927, to bring pressure from the outside to induce these warring factions to unite, together with the refusal of the American Government to co-operate in a show of force with other Powers, to suppress the Communist menace in the Yangtze Region, has resulted in an appalling toll of death, misery and destitution, the break-up of China into five independent divisions

with further disintegration looming head.

In our humble opinion all elements having at heart the welfare of China, the advancement of civilization and the peace of the Orient, should give approval to any plan that will assist the present Central Government to become more representative of the whole by some process more peaceful than the one now being adhered to. Such goodwill and cordial co-operation along the lines which have characterized American support to the Chinese Governments in the past, can bring no lasting benefits to the people

of China. It can only tend to strengthen the power of a military oligarchy and tighten its hold on the oppressed masses until the last drop of blood is squeezed from the unfortunate victims.

There is no reference in the Report to the basic cause of China's troubles, explaining the reason why she cannot pay her debts or start any large-scale program of rehabilitation, why trade, agriculture and industry is handicapped and why there can be no hope of immediate improvement. One seeks in vain for any mention of the fact that the armies of China total at the lowest estimate 2,500,000 men, without counting the million or more bandits and communists roaming the countryside preying on the people. Whether the total be three or five million men under arms, the picture and the conclusions derived from studying it, remain the same. A process of unification which requires an army of over a million men, whose wars and maintenance have impoverished the nation and halted all real progress, can never be entitled to cordial co-operation and approval on any basis except that of some selfish, calculating policy.

One Obvious Course Open

The Mission reports that it found a genuine desire on the part of Chinese Government officials to give consideration to all past indebtedness and was led to believe that a Claims Commission would shortly be set up to determine the exact amount owed. As though they didn't know. If means can be devised that will make these payments not too great a drain on the Treasury, it is hoped that these loans can be satisfactorily adjusted, thus removing a serious handicap to the consideration of future advances. Now there is one way whereby China could pay her debts and have an ample surplus for education and public improvements. All that is necessary is for the Powers politely to insist that she live up to her engagement under Resolution No. 10 of the Washington Treaties and reduce her armies to less than a million men. We are holding Japan to the strict letter of her commitments, so if we are to be fair, it is time we demanded that China comply with her obligations under the same treaties. That would permit the country to forge ahead, pay its debts, build railways and in general bring benefits to all nations trading with her, to say nothing of the incalculable boon to the oppressed millions of China, victimized and ground down by these harpies. As long, however, as China is petted and pampered, coddled and encouraged to purchase arms, munitions and all the modern paraphernalia of war and Chiang Kai-shek is conceded a mandate from the outside to proceed with his campaign of unification by the sword, the military will consume all the revenues, taxes, loans and credits it can lay its hands on. A well disciplined army of 500,000 with modern equipment is more than sufficient to suppress bandit and communists and maintain perfect law and order throughout the country. We are confident that if "Cam" Forbes was entrusted with the job, he could put his finger on a dozen experts who would duplicate his success with the Philippine Constabulary and create a similar police organization for China that with 100,000 trained men could pacify the country and keep it pacified at an annual cost not exceeding \$75,000,000 silver. Until pressure is brought to bear on China from the outside to disarm and seek a peaceful solution of her internal troubles and her differences with Japan, there is little use of dispatching missions to investigate and report on how much business any nation can do with her.

The only real advance made in China for the last decade is that which the Report of the Mission points out as "the amazing fact that 47,000 miles of roads have been built and opened to vehicular traffic almost wholly within the last five years.

"To-day one sees regular lines of buses, generously patronized, passing between cities which for centuries have been out of touch, one with the other, except by journeys occupying weeks, where now they take hours. As one traverses these roads, one sees from place to place small stone or concrete towers which, in times of emergency, are held by guards with machine-guns, a radio transmitting set, and an abundance of ammunition. If a band of bandits or Communists appears, a revolution breaks out, or any other menace to public order, a wireless message within a short time brings airplanes over the scene, observing and attacking, and within a few hours armored cars and trucks filled with soldiers are on the spot and the disturbance quelled before it has had time to make headway."

A Rule of Force

Exactly. The progress made has been forced on Nanking to facilitate its conquest of the country. Lacking the funds to build railways and with no possibility of raising loans abroad for this purpose, the military has built its own lines of communications largely by enforced labor. Over these hastily built dirt roads ply the motorized vehicles the West has to sell, while in the air above fly the engines of death and destruction which holds the conquered districts to their new allegiance. Where conquest by railway has become outdated. Nanking has spread and consolidated its rule, holding its gains by the threat of air power, something which the conquered provinces are prohibited by treaty from obtaining. Where five years ago, the Central Government had a tenuous hold over perhaps five of the provinces nearest to Shanghai and the seacoast, now a much stronger and vigorous control is being exercised over a dozen of the central provinces of China...all of which are being made to feel the "vivifying influence of the New China."

In a recent article in *The Times*, its correspondent, William Teeling, describing a trip through the "Model Province" of the South-west says:

"There are over 2,000 miles of roads already in Kwangsi, with an omnibus service of a sort. The peasants have to work on these roads, receiving no pay, only food. Wuchow is not connected by road for strategic reasons, so that we had to go up the river 10 miles before reaching our car. The 260 miles to Nanking were accomplished in a day and a half at an average of about 20 miles an hour, which was as much as a car could do. The descents to the rivers were often sudden and precipitious, and there have been many accidents through ferries being overweighted and small bridges being washed away.

"The car used had a few months previously spent eight days at the bottom of a river. Its chauffeur had not seen in time that the bridge had gone and was drowned. Omnibuses filled beyond capacity frequently sink on the ferry, and the people find it impossible to escape in time. During the two days on the road only four private cars and nine omnibuses were seen. The cost of such road upkeep is a terrible strain on the Province, but it is held to be vital from a military point of view. Travel through Kwangsi has now become quite safe, and graft in this Province is far less than in others. Every inhabitant has to be guaranteed by two others. It is impossible to drive through any town without reporting to the large and elaborate omnibus station, where a small tax is paid for passage to the next town, and a check is thus kept on possible bandit cars passing through."

These two paragraphs in *The Times* tell the story of China's highway system. General Pei, a Mohammedan, in supreme command of the province, has built and maintains his roads with forced labor to facilitate the movements of his armies in the event Chiang Kai-shek should attempt to invade his bailiwick. Even the Treaty Port of Wuchow, the gateway to the Province from Canton, is inaccessible by a highway an enemy might use to surprise it.

That's a fine phrase. As we see it, this "vivifying influence" is the same stern military method that characterized Spanish rule during the Cubans fight for liberty, that the United States went to war to end, the same old fashioned "civilize-them-with-the-Krag" tactics that were applied during the American occupation of the Philippines with "nice, small stone or concrete towers" scattered around the country and erected at regular intervals along the highways, railways, bridge heads and encircling every town, village and sugar mill. Only in those realistic days, we gave these things their correct name. We called them blockhouses and forts. Way up north in Manchoukuo, American writers adhere to the good, old nomenclature when describing these same defenses. There they are still forts and blockhouses, "visible evidences of Japan's imperialism, aggression and determination to hold her conquests." Only in Central China, do these sign posts of militarism become "nice, stone and concrete houses or towers" and the art of military subjugation of a people is referred to in such a kindly and approving phrase as a "vivifying influence": in plain words, the influence of an army of occupation in a conquered territory, linked by radio, telegraph and telephone to the nearest aviation field and brigade headquarters from which are rushed the air squadrons, fleets of armored cars and trucks filled with soldiers

whenever the first sign of discontent makes its appearance. The "vivifying influence" of such a system is apparent from a glance at a country-side littered with the exposed coffins of those who have been so influenced.

Of course, the Mission was not interested in these matters. In pursuit of its own objective, it was more impressed with the advance made in creating what "it is glad to be able to call the New China." To the humanitarian this New China has all the appearances of Old Cathay dressed in a Western garb, employing new methods to impose and consolidate the rule of the conqueror while justifying its acts by more modern slogans. As a demonstration of force in the unification of a nation, it has much to commend it, once we admit that the Chinese constitute a nation and desire to be unified. The only comment we make is, that such methods could not be applied in any other part of the world of to-day with the approval of civilization.

Communications the Basic Factor

There was only one way to bind China together and that was through the construction of an adequate system of communications. Only through such a system could a Central Government function and properly impose its rule over the whole country. There can be no Government, no unity, stability or law and order until such communications are created. On four occasions, the Chinese Government, endeavored to solve this problem by devising its own national system of railways to advance its own interests and consolidate its own power, and four times these plans were nullified and defeated by international jealousies and the absence of any fixed policy on the part of the American Government. One of the obstacles to the rapid development of railways in China is glimpsed in the Report of the Mission, when it says:

"The military usefulness of such a (railway) system is obvious, but considerations must also be given to the commercial earning power of each road, and the proper balance between military and economic needs weighed, as the Republic of China is in no position to support uneconomical railroads. The need of additional means of communication to supply the vast population of China is sufficiently urgent to justify early construction of an extended system of railroads.

The British, who know China intimately, accept as a basic business principle that a railway between any two points in that country will pay dividends, if properly managed. When they wanted to extract a railway concession from the Chinese authorities they obtained a preliminary agreement and put it carefully away in cold storage until such time as a final detailed contract could be negotiated. Their main concern was to obtain the prior rights. If one line was impractical, the Chinese would be pressed to honor their agreement by ceding an equal mileage elsewhere. In that way they financed and built most of the existing railways in that country. Now when a Chinese railway contract is offered to an American financial or construction group, the procedure is altogether different. The American takes no chances. For him, it is a cold, business proposition. Before even considering a preliminary agreement, a commission of American engineers, traffic and other experts must make an exhaustive survey of the route, draw up estimates of cost, calculate the amount of traffic and freight and decide whether or not the line is liable to pay. The expenses attached to all this preliminary study, and survey must be borne by the Chinese Government. This cautiousness is one of the reasons why American capital has built no railways in China while British, French, Belgian, German and Japanese capital went ahead, took what they could get and built their lines. This extreme prudence is as true to-day as it was twenty-two years ago when the Representative of Dr. Sun Yat-sen laid his powers before Sir Charles Addis of the Hongkong and Shanghai Bank in London, together with a map and description of a ten thousand mile system of national railways for China and after a brief study and talk of ten minutes Sir Charles said: "The British Group will take every mile of railway that Dr. Sun can give it."

A few weeks later, presenting a proposition to finance and build one single line of a few hundred miles to one of the most important American financial houses, the answer after several days, was: "we might consider it, but before reaching any decision, we must send a commission of engineers and experts to go over the whole route, make complete surveys, and estimate the cost and the

amount of traffic the line may expect to carry. The Chinese Government must guarantee to advance at least \$100,000 for such preliminary expenses and if the reports are favorable and we issue the loan, this amount will be repaid to it out of the first instalment." In those days it was customary for the Chinese Government to receive an advance payment on any prespective loan agreement, known as "bargain meney." The idea of advancing G.\$100,000 to a foreign corporation to make up its mind whether a railway was going to pay or not as a condition to entering into an agreement to finance and build it, would have taken its place in Chinese official history as a sample of Western humor, a great joke. But that was the American way. It has not changed.

Promising Investments

It is certainly true at this juncture that China is in no position to support uneconomical railroads. This also pertains to any kind of unproductive enterprise. On the other hand, properly managed, there should be no uneconomical railroads in China. Again, there are certain well defined trunk lines that must be built, whether economical or otherwise, if a strong central government is to emerge from the chaos and consolidate its rule over the country. Many such lines, of a necessity must be more strategic than commercial and other revenues must be allocated to guarantee interest and amortization payments.

Had the construction of these lines been carried out when Sun Yat-sen, in 1913, and Yuan Shih-kai, in 1914, drew up their plans for a national system of railways and offered them to the bankers and constructors of Europe and America, history in this part of the world would have taken a different turn. However, that is another story. We merely observe that had the American Government lived up to its declared policy and not wobbled all over the shop during the Wilson administration, these lines would have been financed and built and China would have been long

since unified. It is now too late.

It is saddening to read that part of the Mission's report where it says:

"The Mission feels that it would be more satisfactory to have proper arrangements devised for loaning China the money to make purchases of new materials, with terms for repayment long enough so that either the plant and equipment could amortize its own purchase price, or that the enterprise could be carried on short term loans until it was in a position to finance itself by long-term issues. The Mission recommends that any such loans should be entered into with the utmost care to assure that their services has a direct claim on some form of revenue adequate to assure interest and repayment."

The burnt child shuns the fire. The number of American firms, all members of the National Foreign Trade Council, who have sold railway materials to China and cannot collect their money, are probably responsible for this warning. We are glad to see it in print. Several railway equipment and steel manufacturers advertised their products in this magazine but now refuse to spend another cent in seeking new business from a client that will not pay its old bills. It is a sorrowful subject for the manufacturers and for a publication that derived a fair share of its income from their publicity appropriations. The Mission is right. American bankers can make no direct loans to the Chinese Government. It is unlikely that the American Government will repeat the mistake of the wheat and cotton loan and extend further large credits to China. About all we can do is to follow the recommendation of the Mission as to long term credits through the Export-Import Bank of Washington.

Regarding those Indemnity Funds

The Report touches on another somewhat delicate subject in its reference to the credit uses made of the Boxer Indemnity Funds. It says:

"The British have arranged that the interest derived from the Boxer Indemnity funds is to be for the aid of Chinese education or similar objects. The capital funds are being advanced to the assistance of Chinese railway, shipping and other enterprises, with the stipulation that their principal purchases be of British materials. It is obvious that the British thus have secured an immediate outlet for their materials, and a preferential position in developing a continuing market for replacements in a field which, in the best interests of China, should be shared with the United States and other countries. Other countries also offer better credit terms to the Chinese than do the Americans. The Italians, though to a lesser degree, enjoy advantages from use of the Boxer Indemnity funds, similar to those of the British. The Belgians, it is said, have recently agreed to defer the receipt of the interest due on one of their railway loans, so that this money could be spent on improving the property and extending the Lung Hai Railway, thus putting it in a better position to secure the principal, and provide for the future service of these deferred payments. The German method—an outright extension of long credits—while different, is even more difficult to meet......

Americans had the chance to employ their share of the Boxer Indemnity funds in the same practical way. We, however, were more concerned in uplift and education. At that time we did not need the petty little Chinese railway business. When it came to the remission of the unexpired portion of the British Boxer indemnity, the educational and missionary element in Great Britain brought pressure to bear on its Government to have the funds allocated for similar uplift purposes. The British Engineers Association and the Federation of British Industries got on the job in time and had the unexpired £11,000,000 portion of the British Boxer Indemnity set aside for railway and industrial purposes, the interest from such advances to create a permanent fund for educational work. In this practical manner they protected their market, assisted in the construction of the uncompleted section of the Canton-Hankow Railway and financed other essential requirements, developing a continuing market for replacements, largely on railways built with their own capital under the provisions of loan agreements which concede preference to their materials during construction and the life of the loan. Although some dispute has arisen as to the interpretation of the clause conferring this preferred right after construction is completed, there can be no difference of opinion as to the original intent on the part of the British in drafting the loan agreements.

The "best interests of China" may be now advanced by sharing these orders with the United States—and other countries, but we incline to the belief that if American capital had financed a few thousand miles of railways in China and stipulated in the loan contract for preferred treatment in the supply of American materials during the life of the loan, they would become somewhat peeved, and irritated if not bellicose, should the manufacturers of another nation advance the argument they they ought to be conceded

equal opportunity in the supply of such material.

American manufacturers made a hard fight to obtain preference in the supply of materials on all lines built with Chinese Government funds, and to a large extent succeeded. Several successful bidders now wish they had'nt been so successful. With these Chinese financed lines now a bad risk, the field for American railway equipment is confined to the lines built by foreign capital—in the main, British. By setting aside their Boxer Indemnity funds to finance the supply of materials to these lines and for new construction, the British are fairly entitled to reap the reward of their enterprise and far-sightedness. As much as we would like to see American manufacturers participate in the distribution of orders for materials for such lines, we cannot endorse the Mission's suggestion that it is to "the best interests of China" that this be done.

Off of the Record

We recall that in 1921, when the campaign was started in Peking to bring pressure on the Chinese Government to permit American participation in the supply of materials to these British loan-built railways, we protested against it as unfair and unethical. British capital had financed and constructed the lines and their manufacturers were entitled under the loan agreements and recognized practice to enjoy the continuing orders for replacements and extensions. Our advice was scoffed at as un-American and the Chinese authorities proceeded to violate their agreements with the British & Chinese Corporation by placing with American firms some very juicy orders for railway rolling stock and rails. It was hailed as a great stroke of business, a signal victory for the Open Door Doctrine and the work of the Commerce Department. The materials were duly delivered to the Chinese Government and the representatives and shroffs of the American manufacturers

have literally been camping on the doorsteps of the Chinese Treasury ever since, trying to collect the money owed to them. Most of the rolling stock and other equipment is now worn out and worthless, yet the hip-hip-hurrah-get-the-business-boys who handed this lemon to the American firms are still on the job telling them what to do and how to do it. Had our counsel been heeded in 1921, these American railway equipment firms would not now be organized into a Creditor's Association seeking the aid of the State Department to collect from the Chinese Government the money due to them and this publication would not be mourning the loss of its best American advertising revenues. So if we differ from the viewpoint of the Mission as to the wisdom of pressing our claims to reap the harvest in a field in which others have broken the ground, sowed the seed, cultivated and protected the growing crop, we have earned the right to voice our opinion.

The interests of China and the United States can be best advanced by American capital taking the same risks that others have done in building a few thousand miles of Chinese railways and creating our own market for railway materials. Anglo-American co-operation is a beautiful thought as long as it is confined to policies and fighting side by side for the preservation of our common ideals and all that sort of thing, but there is no surer way of starting a good, old-fashioned family row than to apply this idea to American participation in business the British have created with their capital, or vice versa. Anglo-American co-

operation will never stand such a strain.

This publication has devoted most of its thirty-two years of existence trying to induce American capital to invest in China, especially to build railways. Those who know the facts will understand and appreciate what is behind that statement. With the exception of the thirty mile Samshui branch of the old Canton-Hankow Railway, American capital has not built a mile of railway in China. Such railway supply business that our manufacturers have enjoyed has resulted from open competition on lines built by foreign capital and such orders as have come from Chinese financed lines largely as a bribe to hold our political support and sympathy. The only really profitable railway business American manufacturers have obtained in China were the orders placed by the Japanese-owned South Manchuria Railway Company. The British loaned their Allies £20,000,000 to reconstruct that railway when they took it over from the Russians and the Japanese spent the money in the United States. We never advanced them a cent. They paid cash and in return received the lowest prices. European capital, that is, British, French, German and Belgian, loaned the Chinese Government the equivalent of \$150,000,000 (U.S.Cy) to construct railways in China Proper and received in orders for materials about fifty per cent of this total or \$75,000,000. The Japanese-owned South Manchuria Railway Company and its subsidiary and allied enterprises in Manchuria have purchased materials in the United States to approximately the same sum. In other words, for European manufacturers of railway equipment to obtain \$75,000,000 in orders, they had to loan twice that sum to the Chinese Government. The Japanese handed to American manufacturers the same amount of business without asking for a dollar of credit, let alone a loan. America's best market for railway materials in China has been the Japanese-owned or controlled lines. It has been a clean and profitable business.

Just a Matter of Business

Now, if we approach these matters from a purely business standpoint, it would seem that American interests would be well served and advanced by preserving this connection with such a good customer and agent. If, however, we are more concerned in advancing "the best interests of China" and this leads us to insist on sharing the business that British capital has created, we know of no better way of throwing Britain and Japan together again. Our British friends would have the right to feel aggrieved. They financed the Japanese who gave us \$75,000,000 in orders for engineering and railway materials in Manchuria, they financed several important railways in China Proper, and then set aside their Boxer Indemnity Funds to protect this market for their railway equipment manufacturers. If Americans now insist that the "best interests of China" demand that these orders be shared with the United States, we can hardly blame the British from wondering how far they are expected to put up capital to create markets for Americans in a country where American capital has at yet not hazarded a dollar.

"The Mission found a very definite and urgent need for the establishment of some agency of meeting the competition of other countries bidding for business in China. Several countries—notably Great Britain and Italy—have made use of Boxer Indemnity funds to create large reserves from which they finance the sale to China of materials for the construction of factories, ships, railroads, and the rehabilitation of old railroads. By these means the British, for example, have secured practically the whole of the supply of rails, bridge material and equipment involved in the rehabilitation and completion of the main trunk line of railway from Hankow to Canton, the last link of which is now under construction; thus effectually excluding Americans from this field."

We assume that the above extract from the Report is merely a statement and is not a criticism. It brings out forcibly, however, one of the results of international co-operation. Americans have no just cause to complain or object if, at this late date, the British have found a way to push through this essential trunk line that means so much to British trade and the consolidation of the power of the Chinese Government. The British offered to pool their railway interests in China with Americans as far back as 1898, when we obtained the original Canton-Hankow Railway concession. We rejected their proposal. When the Belgians gained control of the American concession by purchasing a majority of the shares in the open market and pressure was brought by the Chinese to compel us to surrender the concession, for this "breach of faith," it was the British who advanced the funds to the Chinese that paid our claims and secured to them the preferred right to construct the line should foreign capital be required for that purpose. The Hukwang squabble followed shortly after. The British reserved the right to construct and equip the Canton-Hankow section; while the Americans were allocated part of the Szechuen section. These negotiations again confirmed and strengthened the British hold and interest in this main north and south trunk line.

Regarding Consortiums

Neither the old or the new Consortium has floated any loan for railway construction in China. International financial co-operation terminated with the issuance of the Reorganization Loan of 1913, in which Americans did not participate. Although a new consortium was organized in 1919, it has never functioned. It is dead and should long ago have been interred and the Chinese field opened to individual enterprise. Apparently, no one has the courage to denounce the Consortium Agreement, so it still officially exists to obstruct any single group from entering the field. The real test of American interest in China and our willingness to contribute towards its progress would come as soon as the Consortium is abolished and the way cleared for individual loans. There are thousands of miles of railways to be built in China that American capital could finance. It is even possible to draft a scheme of several thousand miles of essential railways which do not even conflict with the rights pooled in the Consortium. In fact, such a plan was devised by Mr. Sun Fo in 1929, and offered to an independent American Group, which could not touch it because the Consortium Agreement stood in the way.

President Hoover would do nothing to help by denouncing the Consortium. We still contend that only with the disappearance of this obstruction can China be developed. American capital would then be given an opportunity to contribute something to the progress of China and justify its interest in the Open Door and future trade advancement. Americans might even proceed with a line into Szechuen and open up this vast hidden empire on the borders of Tibet. Such a concession would also be a most excellent test of Anglo-American friendship and co-operation. It would also put us in a better position to defend the integrity of China should it be threatened by the advance of Soviet influence from the West. It might take our mind off Japan and create some real and tangible American interests that would justify our policies and the possession of a big navy to enforce respect for them.

Japan's Ledger Account

After all, the real object of the Mission was to ascertain and make recommendations as to how American trade with Japan and China could be increased. Japanese-American commerce is in safe hands. That part of the Mission's labors called for little investigation. The American stake in Japan is placed by the

Mission at well over \$400,000,000, of which about \$250,000,000 are Japanese Government obligations, national and local. American investments in Japan are nearly forty per cent of the total; while Britain has more than half, showing that such part of Japan's remarkable progress, due to foreign loans and capital, has been practically monopolized by America and Great Britain, a good basis from which to argue and urge a genuine three-way co-operation. The American investment in Japan is more than double that of our investments in China and if the missionary and educational stake is excluded, nearly four times. If we accept the total given in the Report of the Mission and estimate the educational investment at \$80,000,000, the actual interest bearing investment in China is about \$110,000,000, of which some \$20,000,000 (without accrued interest) represents frozen credits in Chinese Government debts, mostly for materials supplied and now worn out. If we profit five per cent from this investment we are probably doing well, whereas at the same rate, we are deriving about \$20,000,000 from our investments in Japanese bonds and industrial enterprises. And they are all good; no bad debts, no defaulted loans and nothing to worry about.

A regrettable oversight in the Report is its failure to analyse American exports to China that would show what we are selling to that country and what we may expect to sell in the future. Such analysis would have disclosed that at least 60 per cent of our exports to that country consist of oil, tobacco, raw cotton and wheat, commodities in which we have little to fear from competition, especially from Japan. The Mission might also have approached the Japanese bankers for an estimate of the amount of American exports which are destined for Japanese enterprises in China and also what percentage of Japan's direct imports of raw and partly finished materials from America are processed in Japan and exported to China as Japanese goods. These figures would have thrown a flood of light on the intimate three-way trade that has developed as the result of Japan's industrialization. Some vears ago, at the peak, of our export activities, Japanese purchases in the United States for export to their own enterprises in China were over \$40,000,000, financed through one bank alone. And there are six Japanese banks in New York City. If these purchases are only half that amount to-day it would indicate that in addition to the 60 per cent direct exports, these Japanese purchases would be another 20 per cent, leaving 20 per cent to cover all other American exports to China, which, in reality, represents the Open Door. It is a pity that the Mission did not see fit to enlighten us on this very important subject, especially at this juncture when the Nation will be called upon to spend further billions in building a formidable navy to defend its trade with China and uphold the doctrine of the Door Ajar.

The following paragraph is typical of all American propaganda literature on the subject. The phraseology never varies:—

"A vast change is coming over China; a modernization that, as compared with ten or even five years ago, marks many centuries. The change presages the opening up of her vast territory, with her millions of people, as the most important trade center in the world for several decades to come. No commercial nation can afford to neglect this market, and least of all, America, with her capacity to produce what China needs and her ability to consume what China can produce."

And this vast market that we cannot afford to neglect has been developed to its present importance by the investments of other nations. As to our future participation in developing this market with American capital or loans, the Reports says;

"It is felt by some members of the Mission that the wisdom of American long-term investment in China at this time can only be adequately appraised by taking into consideration political factors which it would be outside the province of the Mission to discuss. While there is every desire to recognize fully the vigor, intelligence, and integrity of the present National Administration in China, of the many solid accomplishments it has achieved, there is, however, a feeling that both domestic and international factors are present which, in their working out, will powerfully influence the setting in which any long-term enterprise in China must be developed."

Just a Business Proposition

And that, of course, is the story in a nutshell. These domestic and international factors are the imponderables in the situation.

Now Japan is trying to compound amicably her differences with China and has proposed to recognize the National Administration as supreme and representative of the whole, assist it to restore law and order by suppressing banditry and communism and co-operate in developing the resources and transportation needs of the country. Japan is willing to take a chance if China will meet her half way and accept her help. It is a stupendous task, and Japan lacks the surplus capital to monopolize the industrialization of China, the building of her railway system or the thousand and one necessary public works and improvements. All this talk of Japan's conquest of China is just bunk. As we have pointed out, if China could unite, clean up the bandits and communists and disband about two million useless soldiers, she will have ample funds to carry through her own program for internal development. She will then need no loans from international consortiums and if she does borrow money abroad she will choose the best market. The sooner we get rid of the Consortium idea the better it will be for America's chances to obtain its fair share of this business. As to whether American manufacturers can compete successfully for these orders in the open market is highly problematical. For many years to come China's ordinary requirements can be met with standards and specifications so far below those required for American practice, that the bulk of this business will possibly go to Europe or Japan.

We cannot hope to compete for this class of business and there is little hope of building up any large scale engineering trade unless we are prepared to advance the money to create the market through long term loans or credits. Otherwise, the bulk of these engineering orders will go to Japan on a pure price basis. The materials may not come up to American standards; but they will be good enough for the service required. Rolling stock, bridges, rails, industrial machinery and engineering supplies good enough for Japan, Korea

and Manchoukuo, will be good enough for China.

If Americans are to obtain their share of the business that will follow the opening up of China, they will have to modify their old outlook on these matters and do a little opening up on their own account. Constant harping on the Open Door and the necessity of a Big Navy to keep it open, when, after thirty-five years we have done nothing to develop the market, is too much like the Dog in the Manger. Cut out the Consortium and all further talk about international co-operation and go to the Chinese with a clear-cut proposition that we are willing to finance. The Chinese will find ten thousand miles of railways in South China alone, that we can build and show the world what we can do. Let us stand on our own feet and let the Chinese see and understand that we mean business. That's the way to build up a trade for American manufacturers.

Credit Where Credit is Due

In the August, 1935, number of *The Far Eastern Review* an authoritative article was published on the subject of "Some Tin Deposits of the Burma-Malayan Peninsula." Mr. S. H. Harman, A.I.M.M. was the author and in presenting the article an omission, which has just been called to our notice, was that owing to an unfortunate oversight due credit was not given to *The Mining Magazine* of London. The article in question originally appeared in the March, 1935, number of *The Mining Magazine*.

Revolutionizing the Steel Industry

In the December issue of *The Far Eastern Review*, we reprinted an article from the *Tokyo Nichi Nichi*, on a new iron ore smelting process by electricity invented by a young Japanese electrical engineer graduate of the Port Arthur Technical College. The general idea, as conveyed in that article is rather vague, and foreign engineers in Japan seemed to think there was not enough data on which to express an opinion as to its value. Well, Mr Hideyuki Kikuchi, the inventor, seems to have put it over for on January 8, The Japan High Cycle Electro-Magnetic Wave Heavy Industry Company was organized at Seoul, Korea, with a capitalization of Y.10,000,000 at a meeting held at the works of the Toshihara Iron Mining Company at Ryuzan, a suburb of Seoul.

The Ochs Memorandum

Further Thoughts on Anglo-American Co-operation. Why Not "Copper the Bet?"

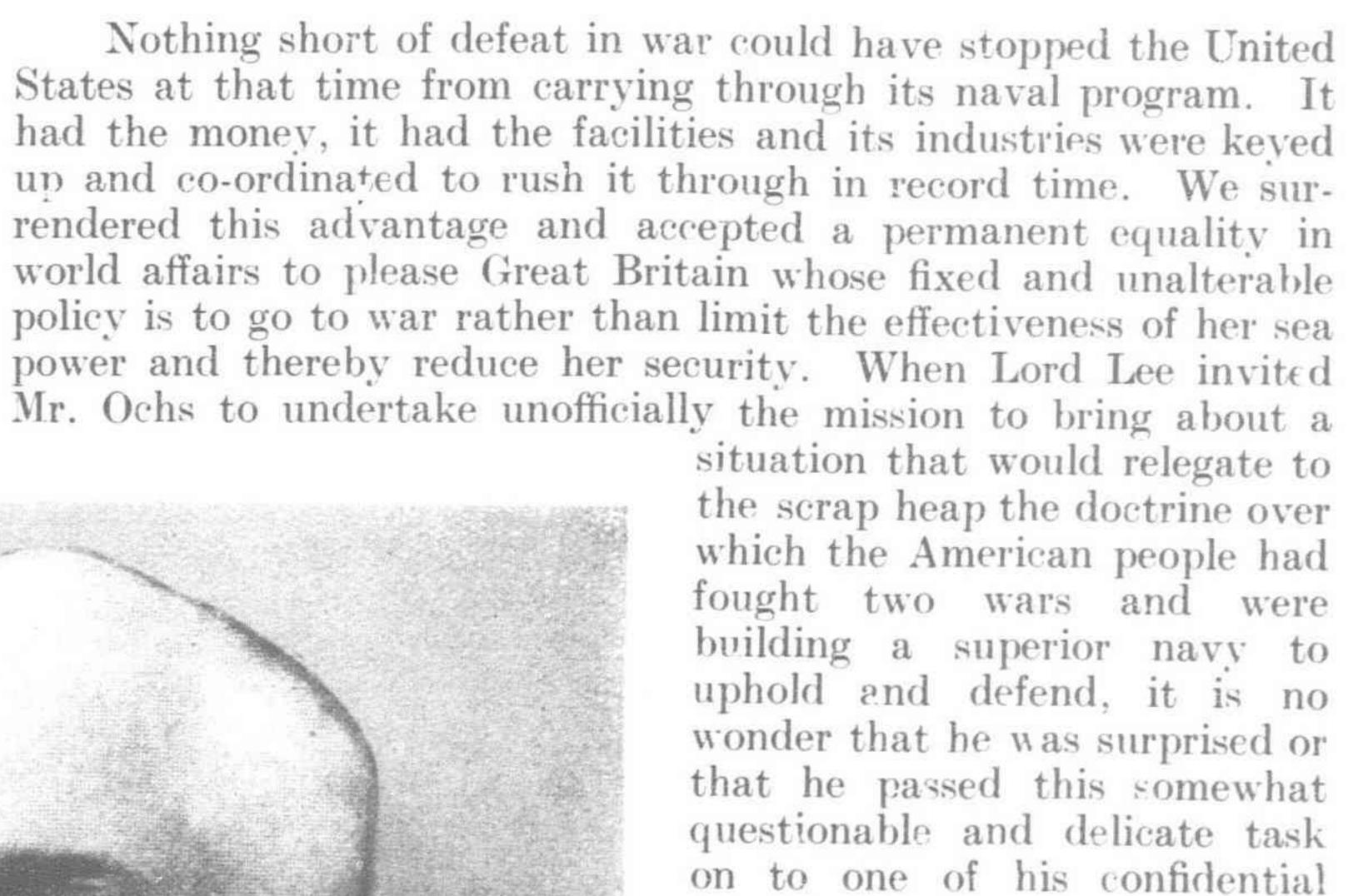
By GEORGE BRONSON REA

disclose how the policy of their Government has been influenced and shaped from the outside. That the Washington Conference for the Limitation of Armaments, the abrogation of the Anglo-Japanese Alliance and the establishment of a balance of power in the Far East was conceived in England and shoved over on Harding and Hughes to sponsor, is no news to those familiar with the inside history of those days. The Far Eastern Review on many occasions has stressed these truths, quoting from unimpeachable British sources, all of which were substantiated by the indiscreet revelations in the tabooed book, "The American Black Chamber."

Now comes the private memorandum of the late Mr. Adolph Ochs, President of the New York Times, to throw further light on this subject. In a new book, entitled "Powerful America," by Mr. Eugene Young, foreign News Editor of The New York Times, in a chapter headed "Enigma of the Washington Conference Solved," he makes public a memorandum found among the private papers of Mr. Ochs, revealing the inside story of how he became the intermediary between London and Washington in bringing about the Conference.

There was just one thing that worried Great Britain at that time and that was the American naval program laid down during the progress of the War which, if carried out, would have handed over to the United States the supremacy of the seas. The British position had been frankly and forcibly declared by Mr. Lloyd George, in his memorandum on the Fourteen Points, in which he reserved to the British Delegation complete liberty of action on the "freedom of the seas" when it entered the Peace Conference, and he furthermore told Colonel House, that Great Britain would spend her last guinea to keep a navy superior to that of the United States—or any other Power. Lord Riddell, in his Intimate Diary of the Peace

Conference and After, tells us that Lloyd George declared to his cabinet associates that he would sell his shirt before the Americans could have it. Secretary Daniels's Diary in "The Naval Battle of Paris" article in the Hearst Press and Moore's "Naval Challenge," also reveals that Mr. Walter Long told Daniels that: "Mr. Lloyd George cannot support the League of Nations unless the United States will agree to cease construction of its big naval program." Great Britain, he added, cannot consent to any nation having supremacy on the seas. When it is remembered that the close war cabinet associates of Lloyd George drew up the League Plan which Wilson had taken over as his own, it shows how easily we were bluffed by such a threat.



subordinates.

The American Surrender

With all the facts now before the American people of Great Britain's unalterable determination to keep the United States—or any other Power from gaining the supremacy of the seas, the explanation given by Lord Lee to Mr. Ochs should be sufficient to convince the most skeptical of how the Japanese bogey has been worked overtime to scare us into acceptance of the British viewpoint. It is true that at that period relations between the United States and Japan were strained over the various school, land and immigration questions; it is also true that there was much newspaper talk of secret treaties between Mexico and Japan, traceable to German war propaganda, but the real estrangement had its origins in Japan's actions in China during the war and our refusal to recognize

ment had its origins in Japan's actions in China during the war and our refusal to recognize what she had done.

It is superfluous to refer again in these columns to what had all the earmarks of a conspiracy hatched in Peking a war in the Pacific after the



The Late Adolph S. Ochs

to plunge the United States into a war in the Pacific after the conclusion of the Peace. Sufficient to state that the British authorities in Peking must have accurately informed London of what was going on and Lloyd George was taking full advantage of a situation that was playing into his hands. With an American Minister at Peking so rabidly anti-Japanese that he resigned in a huff because his policy was not carried out at the Peace Conference and, on resigning, accepted the post of High Adviser to the Chinese Government and called upon President Wilson for a showdown with Japan before it was too late, we cannot blame the British for playing up to our lead.

America's Imported Foreign Policies

With the revelations of Mr. Tyler Dennett as to how the Open Door Doctrine was conceived in England and unloaded on John Hay to promulgate and sponsor, the facts concerning the inception of the Peace Pacts which Kellogg accepted as his own, the admission that the plan for the League of Nations was drawn up by Lord Phillimore and General Smuts and other equally sensational disclosures as to the origins of our major foreign policies, it becomes easier to understand how European diplomacy and propaganda has, in the past, played upon American sentiment to further its own ends.

Lord Riddell's frank admission as to the authorship of the League plan and that Wilson swallowed it whole, reveals how gullible even our best minds can be when appealed to in the name of those high moral and humanitarian principles which for centuries have been the stock-in-trade of Anglo-Saxon statesmen, uplifters and idealists. General Smuts, one of the co-authors of the League Plan is the same highminded gentleman, who, as a member of the Imperial War Cabinet, drew up the war aims of Great Britain which he confined to four points. As his chief, Mr. Lloyd George, included them in the third volume of his "War Memoirs," they now form part of the record. Let us read them:

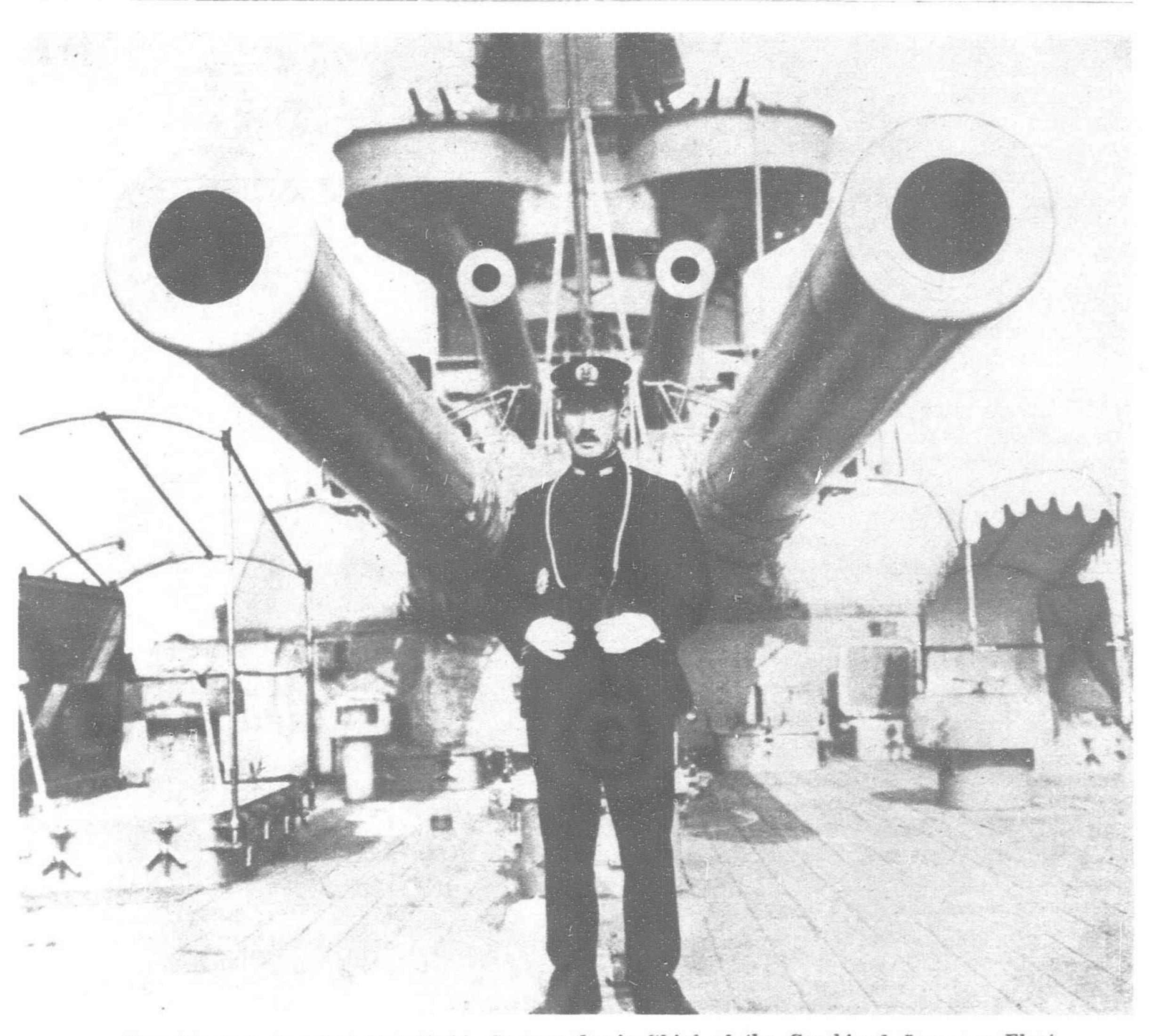
"(a) Destruction of the German colonial system with a view to the future security of all communications vital to the British Empire. This has already been done; an achievement of enormous value which ought not to be endangered at the peace negotiations."

"(b) Tearing off from the Turkish Empire all parts that may afford Germany opportunity of expansion to the Far East and of endangering our position as an Asiatic Power. This has essentially been achieved, although the additional conquest of Palestine may be necessary to complete the task." The two subsequent clauses dealt with Europe.

If these were the avowed war aims of the British Government as certified to by General Smuts, who subsequently drafted the plan for the League of Nations which Wilson adopted as his own, it seems superfluous to comment on the obvious relation of the one to the other. Smuts saw to it that the security of all communications vital to the British Empire were not endangered at the Peace Conference. The League as visioned by its co-author reduces itself to an instrument for the enlargement, glorification, perpetuation and defense of the British Empire.

The personal memoirs of the various Allied and American warstatesmen convey to all right-thinking Americans that the time has arrived when the United States should evolve a national policy of its own and build up its defenses and armaments to enforce respect for it. Otherwise, we may as well accept the logic of the facts, resume our place as a unit of the British Empire and contribute our share towards defending it. The millions of Carnegie and Cecil Rhodes have not been spent in vain.

The United States is being imperceptibly forced into a position that automatically aligns it with Great Britain in every quarrel or war she may find herself in. There are many good Americans who believe with Mr. Ochs that the peace and welfare of the world rests on the shoulders of the American and British peoples and,



Vice-Admiral Sankichi Takahashi, Commander-in-Chief of the Combined Japanese Fleet
When informed of the rupture of the London Naval Conference, he said, laughing, "I don't care at all
whether the ratios are 10 to 3 or 10 to 1. We know how to win a war. If ordered to fight, we must
fight with confidence that we will win."

that it is their patriotic duty to devote their best efforts towards cementing this union of interests into a hard and fast alliance.

The only comment we would make on this is, that any such alliance or understanding must sooner or later land the United States in a war in the Pacific, with the British fleet guarding our Atlantic coasts while the American navy is engaged in Far Eastern seas using Singapore and Hongkong as operating bases.

Not Fully Explained

Although Lord Lee has since officially denied that part of Mr. Ochs' memorandum suggesting that the British fleet guard the Atlantic while the American fleet operated in the Pacific and the Admiralty and Foreign Office has confirmed his disclaimer, it does not explain away the statement that the memorandum was submitted by Mr. Ochs to Lord Lee in January, 1933, and the latter okayed it as agreeing with his own diary. There seems to be a confusion over dates, Mr. Ochs places his talk with Lord Lee on April 22, 1921, while Lord Lee is his denial says that he could not have made such a proposal over the head of Lord Balfour, chief of the British Delegation to the Washington Conference and, that the latter could not have done so without authority from London. adding "there was no such authority." It was not until August 11, that President Harding issued the formal invitations to attend the Conference that was to open November 11, so when Lord Lee talked with Mr. Ochs in April of that year, the British Government had not yet accepted Harding's invitation and Lord Balfour was not as yet appointed head of the British Delegation. On that particular date, the spokesman for anything connected with the British navy was the First Lord of the Admiralty, who happened to be Lord Lee. The point as to whether or not a virtual Anglo-American naval alliance against Japan was suggested by Lord Lee to Mr. Ochs is hardly worth serious denial or even discussion. We

have only to turn to the newspapers and magazines of that period to find a flood of inspired articles, in fact a regularly organized propaganda directed by Lord Northcliffe, urging such an alliance in which the American fleet would use Singapore and Hongkong as Far Eastern bases in the event of hostilities.

Again, although there exists ample evidence that the proposals for the conference to abolish the Anglo-Japanese alliance concealed behind an arms limitation conference, came from London, it can also be urged with considerable force that the British simply took advantage of the opening created by Senator Borah's resolution of December 14, 1920, to call an international conference for the reduction of naval armaments and appended it to the Naval Appropriation Bill for 1921, in accordance with which President Harding issued the invitations. What transpired behind the scenes, however, is another story and although it can be shown that Americans took the initiative in surrendering their naval advantage, the attitude of Lloyd George towards the whole question

of naval supremacy fixes the responsibility. The suggestion advanced by Lord Lee, although subsequently denied, does not materially alter the actual situation. Events have since strengthened the impression that such an understanding is actually in effect, though conditions in Europe and the unpreparedness of the American fleet deprives it of any practical value. Neither the United States nor Great Britain can hold up their end of such a pact at this time and neither side would attempt to check Japan single-handed. When the American navy was concentrated in the Pacific to give emphasis to Mr. Stimson's diplomacy, Great Britain could not follow his lead by permitting League sanctions to be applied, as she would have had to carry the load alone at a time when her fleet was preparing for eventualities nearer at home. Unless there exists a hard and fast alliance between the two Anglo-Saxon Powers to curb Japan, neither America nor Britain could afford to precipitate a crisis in which either Power would have to carry the load.

Some Possibilities

On the other hand, the American navy assumes that in the event of such a crisis, victory would eventually be theirs. The Japanese are equally confident of their ability to win. Should, however, the American assumption prove wrong, should the American fleet be defeated or annihilated, then the British navy would reign supreme in the Atlantic. Whether or not Britain would hazard her main battle fleet so far from home as to dispatch it to the Far East, is a contingency that admits of considerable speculation.

Short of a hard and fast alliance that would convert the United States for all practical purposes into a part of the British Empire, it is extremely doubtful whether we could expect such a tremendous sacrifice on the part of Britain. Conditions in Europe for many years to come will demand the presence of the main British war-fleet in home waters. The future of the United States, its position as a great Power and the fate of civilization itself would hinge on the ability of the American fleet to gain a decisive victory. The gamble is one of tremendous odds with the cards stacked against us. If we should win, Great Britain and the United States would rule the world. Should we lose, Great Britain and Japan would dominate, with the Japanese fleet patrolling the Pacific. It is difficult to believe that Great Britain alone will try conclusions with Japan. That fight will have to be borne by the United States with Great Britain as the silent partner. The United States may be interested in China, but Britain's sole concern is India. Should America be defeated in a war with Japan, Britain would be morally pledged to send her main fleet to the Pacific or resume her old alliance as the only insurance against Japan's complete domination of Asia. In its last analysis, an Anglo-American hook-up simply means that the United States must face Japan alone.

If we are reluctant to do this, the campaign for Anglo-American co-operation will cease and Great Britain will renew her old partnership with Japan at the earliest opportunity. All this is so obvious that only those blinded by sentiment and prejudice can fail to see it. As long as there remains the slightest possibility that the United States may go to war with Japan over the Open Door in China, it can expect the heartiest moral support of Great Britain but, should the American people decide that this is not their war, Great Britain would lose no time in approaching Japan for a renewal

of the old ties to safeguard her position in India and her interests in China. The combined British and Japanese stake in China, including Manchoukuo, in 1931, is estimated in the Report of the American Economic Mission to the Far East as near \$2,225,000,000 against \$196,000,000 of American investments, of which \$80,000,000 represents missionary and cultural properties.

The Opportunity for Moscow

Unless American investors are prepared to hazard a billion or more dollars in Chinese development enterprises in order to attain parity with Japan and Britain, it is difficult to find any argument to justify the United States in waging a war that can terminate only in the complete exhaustion of both victor and vanquished and handing over the supreme control of the China market to Europe.

Why the United States should stake its very existence in a war with Japan to benefit some other nation is something we have never been able to understand. We have our interests, that is true, but they are trifling compared with the greater stakes of others. The interests of both Great Britain and Japan call for a renewal of the alliance discarded at Washington to placate and please the United States and China at a time when it was hoped that an Anglo-American entente would supersede it. To the abrogation of that pact without devising anything effective to take its place in restraining Russia, is traceable the subsequent complications in Asia which have brought about the denunciation of the Naval Treaty and the present impasse at London.

The only assurance that Britain's hold on India and her interests in China will not be imperilled by the slow, gradual communization of Central Asia and the dependencies of old China, lies in a renewal of her alliance with Japan in some form that will meet with American approval. Our meddling in these Asiatic problems through dispatching an American Army to Siberia and guaranteeing the territorial integrity of Soviet territory in Asia, together with our open opposition to the Anglo-Japanese Alliance which resulted in its cancellation, left Soviet Russia in the rôle of a "chartered libertine" to do as she pleased in Asia.

American interest was centered in trade and cultural activities in China, but it did not prevent the Soviet's amputation of Mongolia nor has it obstructed Moscow from obtaining political control of Hsinkiang. Whether we wish to admit it or not, the net result of our intervention in these Far Eastern affairs has been to undermine the defenses of Great Britain and Japan while conceding Soviet Russia a free hand to work her will. It goes without saying, that sooner or later we must withdraw from a position that while safeguarding our prospective and highly dubious trade prospects in China, exposes two great Powers to unnecessary danger.

While we are appealing to principles and laying down new laws to deny to Japan her right of self-defense and refusing to recognize Manchoukuo, events are taking place in Central Asia, in Tibet and in Hsinkiang that compel Great Britain and Japan to be ever on their guard. An Anglo-American common front against Japan, means absolutely nothing, unless the American army and navy are in a position to check the advance of Soviet Russia in Central Asia. This, obviously is out of the question. The time must therefore arrive when, in view of our inability to make any contribution to a solution of this problem, Great Britain and Japan will proceed to seek their own solution. American trade interests and sentimental sympathy with China will carry no weight when two strong Powers come together for the defense of their Empires.

Mr. Ochs' memorandum reveals that side of the story that pertains to his own activities, but it fits in with what is already known of the secret diplomacy of the post-war period when everything was prepared to railroad the United States into a war that would have destroyed American commerce in the Pacific, bank-rupted Japan, handed over the trade and development of China to Europe and reversed the war-debt situation.

It is not surprising to those who enjoyed an insight into these matters that British diplomacy was directed towards bringing about co-operation with the United States in exchange for the abrogation of the alliance with Japan and, that the real object behind the naval ratios holding Japan in an inferior position, was to permit the combined American and British fleets to outnumber Japan's three to one and assure victory in the event of war.

An Impossible Situation

The publication of Mr. Ochs' memorandum at this juncture when another campaign is in full swing to align us on the side of Britain in the impending struggle in Europe and, bearing in mind the strong pro-British policy of the New York Times, conveys the impression that it is all part of the long drawn out propaganda to wear down our resistance to where we will again depart from our neutrality and associate ourselves with Britain in the greater war which looms ahead. No matter how we view the situation, it means war in Europe and in the Pacific. And for what? In Europe, to preserve the British Empire; in the Pacific to preserve the integrity of a decadent and tottering country, that will make no move to help itself, in the hope of establishing a balance of power and the enjoyment of very uncertain trade profits. It is an impossible situation.

There is one way to return to sound American policy and extricate the Nation from its present dilemma. That is to compound our differences with Japan, grasp her outstretched hand of friendship, recognize her right to do in Asia what we insist upon as a right in our own sphere and then co-operate with her and Britain for the development of China. Instead of hazarding our future on an alliance with Britain, why not make it a Three Power Entente and take Japan into partnership? If we are seeking trade and profit, surely this is the most sensible way. If, instead, we are to follow the promptings of Great Britain in defending "the liberties of Europe" and establishing "the balance of power," we must forget about trade, profits, friendly relations and universal peace and build up our armaments and prepare for what is in store for us.

As Norman Thomas says of war in general, there is "no profit, no glory, no need," for war between the United States and Japan. There is nothing in it but the death of civilization. At the least, the only result will be such a weakening of the United States as to cement for all time the supremacy of Great Britain as the Mistress of the Seas and the undisputed Ruler of the World. Then, when we are dependent upon British sea power for our security, our independence will be no different from that enjoyed by other Commonwealths of the British Empire.

Anglo-American co-operation is a wonderful thought could it be carried out and applied in actual practice, but in view of actual world conditions which holds the main British battle-fleet tied securely to its base in Home waters and the fact that the American navy is so far below its treaty strength as to require eight years to build up to it, all talk of such co-operation as applied against Japan, reduces itself to the American navy being called upon to carry the brunt of the fight almost alone. On the outcome of such a naval war would hinge the fate of the United States. Should it be defeated, could we expect the main British battlefleet to steam east of Suez to restore Anglo-American supremacy? Can the United States be assured of full British co-operation in such a crisis? Would Britain stake her Empire and the very existence of her Island by dispatching her main fleet to the Far East and exposing her coasts to the certain invasion of nations only waiting for just such an opportunity?

Things to Think About

Should the United States be defeated in a naval war in the Pacific, Great Britain would remain dominant in Europe, in the Atlantic and in India. She would lose nothing. I quote from a recent book entitled "The Coming World War" by T. H. Wintringham, published in London by Wishart Books, Ltd. This British writer says:

"But that is the traditional form of British aggression; to hire, bully, persuade or permit some other army to do our fighting for us—as in the case of the Greek advance into Turkey after the war, which ended so disastrously for the Greeks."

To which might be added the British offer of the Armenian Mandate to the United States which would have permanently stationed an American army between Russia, Mesopotamia and India, taking the shock of the first advance of a Russian army attempting to carry forward the traditional policy of that country to oust Britain from India. However, I do not subscribe to the thought expressed by Mr. Wintringham. I have more confidence

and trust in the British than to believe they would deliberately shove us into a fight and then abandon us if it went against us. But, unfortunately, such things have happened in the past and history may repeat itself. The first concern of the British Government and people is the preservation of their Empire and their own existence.

The highest duty of the people of the United States is to themselves. To this generation has been entrusted a heritage to preserve, guard, defend and pass on unimpaired to those who come after. They need no entangling alliances with any European Power to discharge this sacred trust. Their leaders threw away an advantage in 1921, that would have enabled the Nation to assume a commanding position in the affairs of the world and secured firmly their institutions, their liberties and form of government against any menace from without or from within. If, with their eyes wide open, these same leaders now enter into any understanding, implied or otherwise, with any Power that would throw upon the American navy the task of fighting Japan single-handed, staking the existence of the Nation in a war, that in the event of defeat, would leave that other Power undisputed Ruler of the World, the issues should be squarely planted so that the American people may understand what it is all about before committing themselves.

We cannot side-step or conceal forever the real issues by arguments and appeals such as are now being advanced to align us on the side of Great Britain. Anglo-American co-operation means that the United States must go to war in the near future for the preservation of the British Empire. We hold to the belief that if and when the real test comes and Britain stands with her back to the wall, Americans again will gladly go to her assistance and stake their own existence on the outcome. But that does not mean that we must become involved on her side from the start in every controversy and war that breaks out in Europe.

Some of the Real Factors

In the Pacific, Anglo-American co-operation boils down to the maintenance of the Open Door Doctrine and its corollary, the territorial and political independence of an undefined geographical area known as "China." This, we insist, is a British doctrine shoved over on the United States to promulgate and sponsor. If defense of this doctrine is to lead the United States into a war with Japan, our great and good friend and best customer in Asia, and Great Britain is in no position to render us any substantial aid other than the use of one or two bases in the Orient, and we should so weaken ourselves as the result of such a war, or worse still, be defeated, while Great Britain emerges as the Mistress of the Seas and Supreme Ruler of the World, then all this talk of Anglo-American co-operation, reduced to the vernacular, is "pure unadulterated bunk."

Anglo-American co-operation when Great Britain is actually up against it, is one thing. Anglo-American co-operation in the Pacific against Japan is an altogether different proposition. There is nothing to be got out of it but a loss. How much more sensible it is for the United States to "copper the bet," make friends, co-operate with Japan and split the trade profits three ways instead of spending billions for new and useless battleships, to kill our best market and customer and hazarding our very existence to defend the trade and investments of another nation?

All talk of naval ratios reduces itself to a very simple formula. Great Britain must now pay the penalty of Empire and the size of the fleet required for its defense and for the protection of her food lines, fixes the standard for any other Power that presumes to a voice in world affairs. All the rest is flapdoodle. If it were not for the ties of blood, of language, culture, religion, morals and other close bonds which make war between the two great Anglo-Saxon peoples unthinkable and which operates as an unwritten alliance to come to each other's aid under given conditions, there is no good reason why the United States and Japan should not enter into an agreement to combine their navies merely to create a balance that would relieve both nations of the strain of building up to the British standard.

It goes without saying that a war in the Pacific will never come unless one side or the other invades the other's sphere and threatens its security. Short of actual attack neither side will fight. In the present frame of mind of the Japanese and American peoples actual warfare is out of the question. Americans may not like what Japan has done in Manchoukuo. They may not concur in her present policies and may express their dissent through official protests and admonishments. But neither do the American people always agree with British policies. In fact, it is impossible for them to see eye-to-eye with Britain in many things she has done in the past and is now doing in Europe. That does not mean that we must carry our differences of opinion to the point of going to war.

If that is true of our relations with Britain why should it not apply with equal force to our relations with Japan? The United States may build a fleet two or three times larger than Japan's and it will never become a menace to the latter until it passes the 180th meridian headed West. Even then it might cruise around the Eastern Seas for months until forced to return to its bases. unless the Japanese High Command is willing to give battle. It seems axiomatic that as long as the main Japanese battle-fleet remains in its own waters behind the barrier of the Loochoo Islands and with command of the Formosa Channel, no hostile fleet will attempt to pierce this screen. There may be many excellent naval reasons, laws of strategy and tactics which justify the American program to maintain a fleet superior to Japan's, but unless that fleet is to fight in Far Eastern waters, it is difficult for the layman to understand them. There must be the will to war before war can take place and as neither the American nor the Japanese people have this will, the naval squabble means nothing more than making good business and big profits for the shipbuilding trades and imposing a further load of unnecessary taxation on an overburdened people.

Other Factors in The Situation

It may be good tactics to pick on Japan and make her the stalking horse in this campaign for a big navy, but there are better arguments in the background which are never mentioned, let alone brought up for discussion. The United States may never again fight Great Britain, it may surrender its claims under the doctrine of the "freedom of the seas," but unless the American navy is at all times equal to the British, the United States cannot expect to hold its place in world affairs as a First Class Power.

It is the size of the British navy that sets the pace, and when Admiral Standley stresses the point that the United States has two long coast lines to defend, he means just that and what it implies. It was not until the American navy as a result of wartime building, threatened to surpass the British that the latter were willing to throw overboard their old partner and concentrate their diplomacy on holding us down to equality while offering cooperation against and playing on our fears of Japan. Even to-day, the British have more reason to fear a naval race than the United States. Britain has all she can do from now on to hold and maintain her supremacy in Europe against any possible combination of naval Powers such as France, Germany and Italy. Friendships and alliances shift too often in Europe for Great Britain to have any illusions about the permanency of the present setup. As she is compelled to scrap and build, the United States must also scrap and build to maintain parity, no matter what Japan may do. The needs of Great Britain fixes the Amrican naval standard. Japan does not enter into the picture except as a Far Eastern Power intent upon defending her own coasts against aggression on the part of any one Power or combination of Powers.

The United States fears no aggression from any Power in Europe. The only possible threat to her security comes from the British navy which is immediately counterbalanced by the proximity of Canada, the pledge that Great Britain will never again seek an issue with America. If we now proclaim that we will forego and surrender our claims to the "freedom of the seas" and never again contest this principle with Great Britain, while insisting upon full naval equality, it implies a determination to hold our place as a full equal of Great Britain in world affairs. Otherwise, we could without any loss of dignity or injury to ourselves accept Japan's proposals and reduce to her ratio. That we decline to consider this and insist on a superior strength at the same time declaring in no uncertain terms our unwillingness to fight over the "freedom of the seas," can be interpreted in one or two ways.

What It All Costs

One is to maintain parity with Great Britain at all costs for reasons of prestige and the other is to perpetuate a preponderating naval strength in the Pacific that will enable us to enforce respect

for our policies in China. Yet analysis clearly reveals that these policies are largely for the protection of British trade and investments. If, however, we insist that they are based on a desire for the advancement of our own interests, then the same reasoning and analysis of the figures will prove that these interests reduce themselves to the right to give away money and remain in business as a charitable institution.

If, after thirty-seven years of the Open Door Doctrine, we have only \$130,000,000 of American commercial capital invested in China, if during that period we have never built a mile of railway, opened or operated a mine or established any large industrial enterprise, if our exports average \$100,000,000 a year and our profits at ten per cent are put at \$10,000,000 and, if we then expend ten to fifteen million dollars in missionary and uplift work, if it costs \$25,000,000 a year to protect American lives and properties, another \$5,000,000 to subsidize steamships to carry our trade, if the Chinese will not pay their bills for materials supplied or honor their defaulted or repudiated loans, if we then lend them further millions to bolster up all this red-ink tomfoolery, the time must arrive when the American people will demand the appointment of a committee to inquire into the sanity of those responsible for the continuance of a policy, which to date shows that we are outof-pocket probably two billion dollars in the past three decades.

Unless there is some reason other than the Open Door and problematical profits to be derived from future trade with China, if the American people are told they must fight to maintain the integrity of China and do something for a people who do nothing for themselves, if they understand that behind all this is the defense of foreign investments which outweigh our own at least twenty to one, if they are asked to impoverish themselves and stake their very existence to maintain a balance of power that will never stay put, there can be no uncertainty as to the reaction throughout the country. And that issue must sooner or later be squarely planted and brought to the attention of the American people.

Mr. Ochs' memorandum, considered in connection with the Naval Conference now in session in London and our rejection of Japan's reasonable claim to parity as a condition to reduction of navies, tells us in no uncertain terms which way we are headed. As long as the American and British peoples feel called upon to co-operate for the peace of the world, which for Britain means the preservation of her Empire and for the United States the maintenance of the integrity of China concealed behind the high and humane hope to secure undisputed control of the markets of these five hundred million consumers, there is no way out for us.

The United States alone cannot stop a nation of a hundred million people on the other side of the Pacific from becoming great and powerful. It might have been done twenty-five years ago. Not to-day. War between the United States and Great Britain is unthinkable no matter how much we may disagree with British policies through ignorance largely of what they have to contend against. The same rule that outlaws war in the Atlantic should be extended to the Pacific. War between the United States and her great and good friend Japan, should be equally unthinkable. The people of neither country want to fight each other; but both are being compelled to build up their armaments for fear of what the other may do. If the American people could free themselves from Chinese and European propaganda, consult their own interests and formulate a national policy based on their own security, trade and vital needs, it would not be difficult to reach an understanding with Japan that would make impossible any further playing upon their fears by such arguments as were advanced by Lord Lee to enlist the aid of Mr. Ochs.

The Ochs Memorandum

In the personal memorandum written by Mr. Ochs he says that, when he was intending to leave England for home, on April 22, 1921, he was invited to dinner by Mr. Lloyd George at his official residence. At the dinner, Mr. Lloyd George told him that the first Lord of the Admiralty, Lord Lee, wished to see him before he left for the United States.

When he called on Lord Lee, the doors to his room were closed and the two conversed in secret. Lord Lee said that the British people appreciated the friendly attitude always shown by the New York Times, and that he could talk in confidence. Mr. Ochs

replied that the peace and welfare of the world rested on the shoulders of the British and American peoples, and believed that it was his patriotic duty to give his best efforts to that end. In respect to the sense of justice all nations necessarily did not agree, but between Great Britain and the United States, there was perfect agreement, and to maintain and protect this ideal, the two nations must unite strongly, he further replied.

Then Lord Lee said that it was a crime against civilization and humanity for Great Britain and the United States to keep on competing in naval construction, and the British Government was prepared to conclude a treaty providing for equal naval strength for the American Navy. He wished that this view would be un-

officially conveyed to the American Government.

Mr. Ochs writes that this proposal greatly surprised him, and that Lord Lee further expressed his opinion respecting controversies that might appear between Japan and the United States in the future, because American-Japanese sentiment was then greatly strained on account of the immigration problem in the Western States of the United States and the revelation of Japan's plan to conclude an agreement with Mexico for establishing a naval base in that country. Lord Lee also said that he believed that the fear of any conflict between Japan and the United States was groundless, but when his proposal materialized it would become possible for the United States to concentrate its entire fleet in the Pacific whenever necessary, and that the British fleet would guard the Atlantic Ocean.

At that time, Mr. Ochs writes, he did not attach much importance to having the proposal unofficially conveyed to the American Government, but later he understood that there was no other way to carry out the plan without arousing the suspicion

of other Powers, and especially of Japan.

Furthermore, Lord Lee explained that he wished to have the proposal unofficially conveyed to the American Government in order to avoid difficult developments in regard to the British Navy at the British Empire Conference to be opened that June. At that time, much unrest was felt about Japan in British Columbia, Australia and New Zealand, and thus there was possibility of the Naval question's being discussed at the Colonial Conference.

Mr. Ochs was greatly impressed by the confidence placed in him to transmit such an important and epoch-making proposal to the American Government. But as he, in the position of the President of the New York Times, could not convey the proposal, he had Mr. Edwin Marshall, London correspondent of the Times.

convey it to the Washington Government.

Thus Mr. Marshall saw Mr. Edwin Denby, American Secretary of the Navy, and exchanged a memorandum on the British proposal. In the memorandum, it was written that Lord Lee had hinted at the possibility of some naval reduction when Great Britain and the United States agreed on the guarding of the Pacific and the Atlantic. That is to say, if the United States shouldered the responsibility for guarding the Pacific and the British fleet that for guarding the Atlantic, it would become unnecessary for Great Britain to maintain a large naval strength in the Pacific, and the United States would have greater opportunities to concentrate its fleet in the Pacific. Such a distribution of the naval strength of England and America would be possible only when the two nations acted in the spirit of mutual confidence. Lord Lee believed such an arrangement possible, and if the Washington Government would give the same confirmation to England his position would be greatly strengthened.

Secretary Denby was very interested in the proposal submitted by Lord Lee, and promised Mr. Marshall to see him again in a few days. It is believed that Secretary Denby conferred with President

Harding and other high officials.

Calling Mr. Marshall, Secretary Denby said that he wished to ascertain fully the British interpretation of the Anglo-Japanese Alliance, and particularly as to how it would operate in the event of a conflict arising between Japan and the United States. The Secretary declared his intention of replying to the British Government, and thus Mr. Marshall drafted a memorandum for the United States and submitted it to Lord Lee upon his return to London.

Mr. Ochs writes that he does not know what negotiations followed between the two Governments after that development, but two months later the Anglo-Japanese Alliance was abrogated, and in the new treaty items that might cause unfavorable effects on Great Britain and the United States in the event of a conflict arising between Japan and the United States were removed.

Soon after, on the morning of Sunday, July 10, when President Harding was about to leave on a trip on the Presidential yacht Mayflower, he announced to newspapermen that the Naval Limitation Conference would be called to meet in Washington on November 12. In the opening address made by Secretary of State Hughes, that official surprised the whole world by announcing the proposal to make the navies of Great Britain and the United States of equal strength.

Later, when Mr. Ochs met the French Premier Briand, the French Premier expressed dissatisfaction with the 5-5-3 ratio. Mr. Ochs replied that the greatest result of the Naval Conference was not in deciding the ratio, but in giving the same strength to Great Britain and the United States so that the two nations could co-operate for the peace of the world and also in separating

Japan and Great Britain.

The memorandum written by Mr. Ochs was submitted to Lord Lee in January, 1933, and after reading it, Lord Lee wrote that, as far as he was concerned the memorandum agreed with his diary.

Soviet Defense Plans

Largely as a measure of military defense against Japan, the Soviet Union is in the midst of a tremendous effort to build a powerful Far Eastern industrial state in the area just north of Manchuria.

The central pattern in this new military and industrial design will be a new trunk line railroad from Lake Baikal to the Pacific. It will parallel the existing Trans-Siberian, but will run several hundred kilometers north of it. Thus, it is hoped, communication between Central Asia and the Far East will not be entirely broken should an army advancing from the south be able to capture or destroy the Trans-Siberian.

New Water Routes

But the railroad is only a part of the pattern. New water routes will be opened. Sea and river ports will be improved. New airplane bases and landing fields will be laid out. New mines and factories will be started. In short, the Soviets hope to build a powerful military and industrial country where recently there was wilderness.

Transportation has been the weakest link in the Russian system of military defense for a long time. This is true under Stalin, just as it was under the Tsars. The breakdown of transportation largely was responsible for Russia's defeat by Japan in 1904. Clogged lines of supply caused Russian soldiers in the World War to lack food, their guns to run short of ammunition. The Soviets are trying to profit by these lessons.

Strengthen "Life Line"

Ever since the Japanese advance into Manchuria in 1931, Soviet officials have been working to strengthen their "life line" to the Far East—the Trans-Siberian Railroad.

Closest secrecy has been preserved, but travelers say the line now is double-tracked to a point just north of Blagoveshensk, or about nine-tenths of the distance from Moscow to Vladivostok. Completion of this work is a part of the new Far Eastern

program.

The new railroad (joining the Trans-Siberian at Lake Baikal) will traverse the northern continental part of the Eastern region, passing on a rough line through the sources of the Zeia and Bureia rivers and on to the new town of Komsomolsk-on-Amur in the Maritime Provinces about 100 kilometers north of Khabarovsk. A line between Komsomolsk and Khabarovsk will connect the new railroad and the Trans-Siberian on the east. Also a system of 'feeder lines' will radiate from the Lake Baikal-Komsomolsk route to industrial towns of the Far East.

With the completion of this new line the Soviet Union will be freed of its old fear of being completely cut off from the Pacific in case an enemy should capture the Trans-Siberian.

Cunningham of Shanghai

энкоисн the recent troubled years of Shanghai's history perhaps no single individual has achieved more for the welfare of all the mingled races that make up the general community of the port, and none has won more personal prestige and esteem than Edwin S. Cunningham, the American Consul-General, who at the close of the year ended a career of nearly forty years in the American consular service. Shanghai in general and the American residents of the port in particular have been fortunate through the past sixteen years in having Mr. Cunningham in the special position which he has filled so ably through this period. With the equable smiling attitude that is so characteristic of the man, Mr. Cunningham ends his active labors in vigorous good health and with all his physical and mental capabilities

undimmed. He is in his sixtyeighth year and after a life filled with all the drama of swiftly moving international events in many far places all over the world, he has turned his steps. at length homeward and is on his way to the little town of Maryville in eastern Tennessee where he was born on July

6, 1868.

Mr. Cunningham began his life work in the American consular service in the sultry port of Aden in Arabia. That was in 1898, when he was not yet 30 years old. Before that he had been a lawyer. After graduation from Maryville College in Tennessee in 1889, he obtained his degree in law in 1893, at the University of Michigan, and was admitted to practice in the courts of that state. It was after working in a law office for two years in Michigan that the urge to travel to distant places on the globe came upon him and the American consular service pointed the way through which he could realize his wish. And in those days it was not such a difficult matter for an up and coming young man to win a berth in that service. Appointments then went largely by political favor, for the rigid personal requirements and the stiff examinations for admission to the service of to-day had not then come into use. Any bright young lad who "knew a man who knew a congressman " had

a fair chance for consular appointment. So it came about that young Attorney Cunningham put away his law books and said farewell to the United States to go to Arabia there to begin the long years of service for his Government in distant lands. In the period of three years that he remained at Aden the Spanish-American war and the Boer war were fought.

His Early Career

In 1901, Mr. Cunningham was transferred from the arid sand wastes of Arabia and was sent to Norway where he became a Consul at Bergen. It was while he was in Norway that Sweden and Norway became separate countries. Mr. Cunningham as American Consul attended the coronation of the King that Norway elected at that time. Mr. Cunningham's term of duty in Norway continued

through five years until 1906, when he was given his second transfer, this time to Durban, Natal, South Africa. It was in this period that the Union of South Africa was established following the Boer war. Also it was when he was in South Africa that he met the late Mrs. Cunningham. Their marriage took place in London on November 14, 1911, after he had relinquished his post at Durban, and in the course of a honeymoon journey to the United States he and his bride visited Mr. Cunningham's home in Tennessee, afterwards sailing for Bombay and the post to which Mr. Cunningham had been assigned in the preceding year. The period of service in Bombay continued through two years after which Mr. Cunningham received his first appointment in the Far East, at Singapore, where he remained from 1912 to 1914, before beginning

> the final phases of his career as a consular official that were to be enacted in China. Mrs. Cunningham's death took place at Hangchow in April, 1934.

> It was in the opening years of one of the most significant periods in the history of the country that Mr. Cunningham came to China. He became Consul-General at Hankow in the latter part of the fateful year of 1914. The new form of government, designated a Republic, was then in its third year following the overthrow of the Manchu Empire. The land was torn with dissension in the North and in the South and rival Chinese militarists were shaping their ambitious efforts and aligning forces in preparation for the long tragic series of internal conflicts that have swept away millions of lives and cost untold sums in treasure, leaving a great rural population of three hundred and fifty million people destitute and at a point of desperation under the burden of their manifold miseries.

> When Mr. Cunningham assumed his duties in the American Consulate at Hankow the World War was in its initial stages. The United States was trying to shape a course of strictest neutrality, so aside from the complex problems created in consequence of the internal state of affairs in China, the situation was made more

intricate and difficult by the jealousies and enmities the Great War created among various foreign racial groups residing in China, for at that time China also was a neutral. Mr. Cunningham remained in charge of American affairs up the Yangtze for five years, or until 1919, when he entered upon the period of sixteen years of service that he was to experience in Shanghai. His transfer to Shanghai was only to bring him more sharply into contact with the internal strife and discord caused by the conflicts of opposing Chinese leaders. That period saw the element stir into activity in China that has caused so much anxiety, both to foreign authorities in the Concessions and to Chinese officials. This was the mass activities of Chinese students. It was at that time that Chinese Ministers were mobbed in Peking and outbreaks reflecting these disturbances in the North took place in Shanghai, bringing in their train one situation after another to cause alarm and apprehension



Mr. Edwin S. Cunningham, Retiring American Consul-General at Shanghai

for every Chinese administrator and every foreign consular and diplomatic official in the country. It was at this time that the abortive Unification Conference to bring into harmony the discordant Northern and Southern elements was being staged in Shanghai.

In the Early 'Twenties in Shanghai

An unhappy incident of this period in the first years that Mr. Cunningham served in Shanghai—one of the dark spots in the history of the new Government, and of Shanghai—was the deportation from China, after signing of the Armistice at the end of the war, of all the German residents of the country who could be found and rounded up. This quite completely wrecked German commercial interests in China, particularly in Shanghai—a thing that one day China may have to reckon with.

Another development of the early 'twenties in Shanghai that occasioned grave concern for all the authorities was the recurring waves through this period of Russian immigration into the port, bringing to the city thousands of refugees who had fled through Siberia before the advance of Bolshevism, and who sought haven in the populous centers of China.

These people were almost completely destitute and unable to speak any language but their own. It was in those years that the Chinese saw for the first time white-skinned men and women beg in the streets, and the spectacle of many of these unfortunate aliens reduced to the level of life in coolie mat sheds fixed in the Chinese consciousness an impression that can never be erased. The flourishing, prosperous state of Shanghai's great Russian community of to-day, the diverse activities of Russians in the professional and commercial life of the port, the blocks of ornate business establishments in that portion of the French Concession that the Russian community has made particularly its own-all this gives lustre to the high competence of Russian character and testifies to the innate Russian ability to rise superior to dire adversity, but it is not to be gainsaid that the trials through which these hordes passed in China, and particularly in Shanghai, were a factor in modifying the attitude of the Chinese toward the Occidental, as markedly it has been modified in recent years.

Thus through the diverse and often perplexing events of Shanghai's recent history it has been the particular job of the American Consul-General to steer a course, ever mindful to safeguard American interests and tactfully to arrange to have circumstances fall so that the best advantage of these interests would be served in consonance with general civic harmony and betterment in a community of many races and many nationalities. This has not been a simple task and how through it all the Chief—for so he is called by those privileged to know him well—has contrived to retain his unfailing urbanity is a secret that he is carrying away with him to Tennessee.

Other Incidents

In his time in Shanghai he saw the Commission on Extraterritoriality come and go with his blessing, having supplied to that body much of the information embodied in its report. In his position on the Consular Body, the entity that governs the International Settlement of Shanghai, he played an important part in the transitions made possible in China at the Washington Conference, leading to the closing of foreign Post Offices in China, to tariff autonomy for the country, to the abandonment of consular control of the Chinese Courts in Shanghai, and to all the changes that recent years have brought. Through all this period, like exclamation marks punctuating a stirring narrative, have been the periodical Chinese armed outbreaks, the boycotts and the strikes and incidents like that of May 30, 1925, which the Chinese call "the Nanking Road massacre" when a hysterical angered mob attempted to storm Louza Police Station to be halted by a point-blank volley of bullets, an affair that turned Shanghai into an armed camp for weeks, and with an attendant solemn inquiry. In those days and afterwards every foreign consular official as well as the Chinese had problems and difficulties to surmount.

It was in 1926, that the American Consul-General became Doyen of the Consular Body, and as such, head of the government in the International Settlement of Shanghai. He was in this post through that moving period of 1927, that saw the rape of Nanking, a phrase literal in every sense, and in this same period a Chinese army made a determined effort to give realization to the dream every Chinese militarist has had through the past quarter century—to sack Shanghai. It was then that British machineguns and American rifles wrecked that purpose and on a sunny afternoon made a shambles along the Settlement's northern boundary on Range Road, through which the invaders had attempted to march; while foreign warships in the Whangpoo held ranges aimed on strategic centers in Shanghai where it was thought the least harm would be inflicted on non-combatants. In those stirring times when alien residents of Shanghai were specially registered and assigned to points of concentration for swift evacuation—"just in case" — the American Consul-General was the head of the Consular Body, responsible to the foreign community in general in addition to his primary responsibility to his own people.

Later came another time of stress and bloodshed for the authorities of Shanghai when early in 1932, following the Manchurian incident, Japanese forces clashed with the Chinese 19th Route Army at Shanghai, with much attendant loss of life and the destruction of a large portion of the city. In the final adjustment of this trouble, which lasted through many anxious weeks, the American Consul-General played a prominent part as Chairman of the Joint Commission whose efforts at length led to the signing of the Sino-Japanese Agreement of May 5, 1932, making the area surrounding Shanghai a demilitarized zone.

One matter of special concern to Americans in China that engaged the attention and the energies of the American Consul-General through the last year of his work as an official in Shanghai was the project to build, after years of delay, a great new structure to house the American Consulate and other official American establishments in Shanghai. That this plan for an imposing American Government building at length is to be brought to realization in the near future is just another striking achievement in the long distinguished record of "the greatest Consul of them all."

It is in Shanghai that the departing American Consul-General has left his mark on his times. The monument will stand here and the memory of the man will live in the hearts of all who love Shanghai, Chinese and aliens alike. In this record of one man's life Aden, Bergen, Durban, Bombay and Singapore all fade into a distant indistinct vista like cities of a mirage that form a shadowy background out of which rises China, the mighty Yangtze and, in sharpest outline, Shanghai-Shanghai the world's fifth port, magic city of squalor and magnificence with its thronged and dissonant roadways, its carefree gaiety and its grim tragedies, its taipans and its modern mandarins. This is the real setting for the story of Cunningham, and one may surmise that to this thought he would smilingly append the accustomed "O.K.-ESC." Thus he takes his appointed place in the annals of Shanghai, and thus has Shanghai put its mark upon him so that he goes down to future times and is and will remain—Cunningham of Shanghai.—val.

A Message of Peace

(Continued from page 3)

countries. The understanding and appreciation of another country's standpoint is often attainable through the understanding and appreciation of that country's culture and civilization. We have succeeded in building up our national strength and prestige by adding and adapting to our civilization Occidental arts and science which we have imported during past years. Now it is time for us, I believe, to try to introduce our arts and culture to other lands, and thus contribute toward international good understanding and to the enrichment of the world civilization and the promotion of the peace and happiness of mankind.

In conclusion, let me say that the future of our foreign relations is, as I have stated, extremely complicated and complex, while at the same time our country's international position continues to rise. It behooves us well that, in conformance to the Imperial Rescript issued on this country's withdrawal from the League of Nations, we should strive to cultivate abroad good faith among nations and perform at home each his appointed task and go forth together with courage and determination to meet the world situation of to-day.

Adhering to Fictions

COMMENTING on the Stimson Doctrine in our December issue, we stressed the point that this new formula for the recognition of states was written into international law while a Commission of Enquiry was in Manchuria gathering information for its report to the League, thus changing the rules during the progress of a trial. Geneva's ready acceptance of the Stimson Doctrine makes it difficult to repeal the law in favor of any oppressed people who in the future may revolt and accept help from the outside to establish their independence. In effect, this new Doctrine is a recantation of America's political creed in order to give permanence and pre-eminence to a new theory of international relations that no matter how desirable, proclaims an end to human liberty. It may now be law, but humanity, reason and justice tells us that it cannot be upheld and enforced without rejecting every principle and ignoring every precedent upon which oppressed peoples in the past have vindicated their right to freedom and recognition.

The propensity to set ourselves up as Law-Givers and change the rules at our discretion, is again evidenced in Secretary Hull's recent declaration of neutrality. Qualifying this policy as impossible and setting a dangerous precedent, Walter Lippman in the New York Herald-Tribune says:

"The first thing to note about Secretary Hull's declaration is that it radically changed the rules of neutrality after Italy had gone to war and that it changed them radically to the disadvantage of Italy. For in August, Congress had specifically declined to put an embargo on raw materials. We have to ask ourselves, therefore, whether we believe it is wise to establish the precedent that in future wars, especially great wars, the United States may at the discretion of the President change the rules at any time so radically that the decision may give the victory to one side rather than to another.... Whatever the rules are to be they must be rules that are known in advance and are sincerely applied..... Surely it is not wise to make a rule of neutrality that cannot be lived up to except at an intolerable cost and cannot be changed without ceasing to be neutral."

Hard Cases and Bad Law

Mr. Lippman closes his argument with the observation that "there is an old adage among lawyers that hard cases make bad law. The League's experiment with Mussolini is a hard case, a very peculiar case, and we are in considerable danger of making out of it some very bad American law," an opinion with which we are in full accord.

We hold firmly to our belief that Mr. Stimson made some very bad law when he employed the Peace Pacts as the basis of a new recognition doctrine and enacted it into law, long before the evidence could be gathered on which to reach an unbiased judgment. That law now makes difficult, if not impossible, recognition of the elemental right of an oppressed people to take advantage of any application of force from the outside creating the opportunity to free themselves that otherwise could never occur.

Thirty million people held in subjection by a mercenary army of 400,000 men, backed by the largest arsenal in Asia, shot down, decapitated or imprisoned for violating police regulations, prohibiting even the public or private discussion of politics, witnessing every revolt of their leaders suppressed with savage cruelty, were in no position to stage a spontaneous uprising or even voice their grievances. By every precedent in history, these people were justified in taking advantage of the opportunity created by Japan's resort to self-defense, to declare their independence and set themselves up as a new Chinese state under the protection of Japan, in the same way that their Mongolian brothers declared their independence and accepted the protection of Soviet Russia. Outer Mongolia created a precedent. Canton followed in its footsteps and would have converted China into another Soviet Republic without

a word of protest from the other Powers. Hsinkiang is following the same law.

We are told by the legalists that the Manchurians did not desire freedom, that they preferred the yoke of their bandit task-masters to enlightened self-rule under the tutelage of Japan. There is a tendency to scoff at and disparage the desire of the Manchurians to independence. It depends entirely on the definition of liberty. Each nation has its own conception of some objective which becomes the goal of its happiness and its measure of freedom. No matter how divergent these various views, they are all rooted in a common opposition to being exploited, which invariably takes the form of excessive taxation. In China, this opposition to exploitation is for the moment subordinated to the greater objective of freeing the country from foreign control.

The Anglo-Saxon Rule

From the earlist time, the Anglo-Saxon contests for liberty arose from a fixed and rigid conception of the right of the people to a voice in granting the use of their own money. They maintained that without that right, no shadow of liberty could subsist. Great Britain lost America because a group of hard-headed reactionaries insisted that the colonists had no right to the liberties for which their ancestors had shed their blood. It was this refusal to extend these laws and rights that five centuries or more were wasted in attempting to subdue Ireland. Only by communicating these rights of representation to Wales were these fierce and indomitable fighting people brought under any form of law, order and submission.

In the Anglo-Saxon sense, "Liberty," therefore has only one meaning, a common understandable, human reaction against exploitation. We Anglo-Saxons have not been singled out by the Almighty as the only people justified in revolting against extortionate and confiscatory taxation. Basic human nature is much the same the world over. The poorest being that crawls on earth, contending to save itself from injustice and oppression, is an object respectable in the eyes of God and Man.

They may not be endowed with the same high intelligence as the Anglo-Saxon; they may have little or no conception of their rights, but that does not mean that these rights are non-existent. They react to injustice and oppression the same as we do and enjoy the right to invoke the same principles in defense of their actions as their more educated and articulate judges who would deny to them that privilege. There may have been no "shining white foundation of unsullied virginity" to the independence of Manchoukuo, but there are principles which fully justify it and which cannot be set aside by any amount of sneering or belittlement.

Granted the justice of every argument brought to bear to refuse these people the boon of recognition, admitted that their revolt was not spontaneous and their independence could not have been achieved without help from the outside, there remains the incontestable fact that they were being held in virtual slavery and denied even the most rudimentary rights as human beings.

Regarding the Manchurians

A situation where thirty million people come under the despotic rule of a bandit overlord, who held them in subjection by an army of 400,000, compelling them to turn in the product of their toil in return for worthless paper notes to the point where over seven billion dollars of these notes were in circulation, has no parallel in the history of oppression and confiscation. To argue that these people did not desire to escape from their bondage or that their independence and salvation was forced upon them is to ignore the teachings of history and deny the elementals of human nature. When, in addition, this ruthless exploitation was causing the ruin

of a billion dollar Japanese investment, following a prearranged plan to deprive the Japanese of any economic advantage as the first step towards driving them out of a country they had staked their existence to keep from being incorporated into the Russian Empire, the justice of Japan's action cannot be so lightly set aside or denied by invoking treaties which legalize the injustice. Any law enacted to deprive these people of the right to freedom is a bad law. They are the best judges of what constitutes practical freedom.

Amongst a people generally corrupt, liberty cannot long exist. The example of China is before us. The leaders who have, come to the front in that country are representative of the whole. The wealth of the country has gravitated into their pockets and unless some check or control is imposed upon them, the exploitation of the masses will continue. Under such conditions, there can be no government, no stability, no progress and no happiness.

The Stimson Doctrine has become the subject of much legal controversy. If we now say that force can no longer be employed to right the wrongs of oppressed peoples or, that these peoples may no longer seize any opportunity to free themselves, there is nothing more to be said. Peoples so placed will ignore the law and accept the consequences, whatever they may be. It is contended by some authorities that the Stimson Doctrine does not "fossilize the status quo but merely insists that general shall be substituted for individual action in conferring the sanction of law upon a situation which originated in violence. As Quincy Wright puts it, "the Stimson Doctrine . . . insists that with respect to a claim resting upon an illegal resort to force, recognition is always premature until such claim has been confirmed by a procedure of general consultation manifesting the will of the community of nations as a whole."

The question arises as to how this claim is to be presented when this same community of nations as a whole sets up a law denying such recognition to a new state before its case is adequately investigated and reported upon? In the case of Manchoukuo whose creation gave rise to the Doctrine, it is assumed that China is the parent state, a fiction which ignores the historical fact that for two and a half centuries China was a dependency of Manchuria, ruled over by the Ta Ching Dynasty whose Homeland was Manchuria and whose spiritual capital and Hall of Records was always at Mukden. Manchuria never came under the rule of China except nominally and then only for a very brief period.

If the will of the community of nations as a whole is to be expressed through the report of a commission of enquiry which usurps the function of the court and whose findings and recommendations are upheld by the Community and no court exists before which to appeal from this decision and there is no machinery for revising or annulling the law, any peoples who may in the future break away from the yoke of their oppressors are going to be a long time penalized and ostracized for doing something that every one of their judges have in desperation resorted to in the past.

What the Future May Hold

Now there is every indication that once the Italian situation is cleaned up—by the League, the legalists and pacifists will insist that the same measures be applied to Japan for breaking the law, despite the fact that there is nothing in common between the two cases. Japan's case stands on its own merits. She voluntarily signed the Nine Power and the Peace Pacts and then later found that their effects were intolerable, condemning her to slow strangulation and death while the rest of the world gloated over her misfortunes. Both of these treaty laws were perpetual, with no provision for revision, let alone abrogation and thus in time they became instruments of injustice and oppression.

The same argument applies with equal if not greater force to the people of Manchoukuo. Their lot became unbearable and their only remedy a resort to violence, an escape that was denied to them by the presence of a huge army maintained for the express purpose of keeping them in subjection to their taskmasters.

Caught fast in this treaty trap and unable to break out through an appeal to the law or by any other peaceful means, Japan and Manchoukuo did exactly what every other peoples or nations have done since the beginning of history. They broke the treaty law and appealed to the higher law, the law of necessity. So we nonresisting, peaceful Americans who broke the law when we could no longer tolerate what we considered an injustice, the meek Frenchmen who rose in rebellion and waded through rivers of blood to their goal, those so docile Germans who followed Bismarck and those passive Italians who thronged to the banner of Cavour to fight for national unification, those lamb-like Russians who dyed themselves red to escape from their yoke, all these good law-abiding peoples now set themselves up as judges of another people and condemn them for having broken the law that they wrote in the statute book of history in letters of blood.

American pursuit of the peace ideal by approaching political issues from the purely moral and legal angle must inevitably lead to a situation from which we cannot withdraw with dignity and honor without a fight. The recent neutrality act makes us a partner of the League, creating a situation that is fast developing along the same lines as that which split the nation in 1917, with ten million Italo-Americans, quietly organizing all over the country to apply sanctions of their own should the nation be drawn in on the side of the League or Great Britain in the event of open hostilities.

How History Repeats

As in 1812, when Napoleon by threats and the terror of his name forced an unwelcome alliance upon all the states of Europe and the United States became the sole important neutral in his war with Great Britain, so history repeats itself. To-day, we find Great Britain has forced upon the League of Nations an alliance against Italy, with the United States, if not the sole, then the most important neutral strong enough to make it too dangerous to enforce respect for the British conception of maritime law. Our position under the Neutrality Act, as well as under the Stimson Doctrine, is no different than the one Jefferson found himself in previous to 1812. Openly disbelieving in war, avowedly determined not to fight, he approached a nation struggling for life with the greatest military power on earth and called upon it to come to terms for business reasons. One hundred and twenty years later, we now call upon another nation struggling for its existence against a combination of military, economic and political forces to sacrifice itself for the benefit of our prospective trade profits.

Despite the fact that France was seizing and burning American vessels bound for England, Madison accepted in good faith Napoleon's unofficial declaration that the Non-Intercourse Decrees had been repealed and continued to insist on a fiction until war with England became inescapable. So to-day his successors in the White House, insist on the observance of a treaty based on a fiction that sooner or later must drag the nation into the same cul-de-sac. As Madison tried to carry on diplomacy between two nations fighting to the death as though it was a matter of contracts, words and phrases of legal meaning, so to-day his successors are trying to hold the diplomatic and legal balance between three nations, one of which is with its back to the wall fighting for its very life against the other two who outnumber it at least twenty to one in military strength and with whom legality and sanctity of contract is as incomprehensible as with Napoleon.

Struggling ever since her entrance into the Family of Nations against the pressure of the strongest military power of Europe, let loose upon her by the venality, duplicity, cowardice and unconcern of a neighbor whose duty it was to hold this menace in check, compelled to withstand severe economic boycotts and outbursts, while denied the right to protect herself by the operation of treaties which legalize and even encourage these practices, something more than shrewd legal practice and invocation of high moral principles are necessary to bring Japan to our viewpoint.

As long as these appeals to the law cannot put an end to Chinese boycotts and anti-Japanese movements, check the spread of Communism, or bind a nation that is outside the law, how can we expect Japan to accept our policy and protestations of peaceful intent as other than a pettifogging means to secure favorable trade conditions by catering to the sentiment of the Chinese and the Soviets? Under such conditions, the persistency of the American legalists and doctrinaires to insist on the reality of the fiction and the equally determined attitude of the Japanese realists to face the facts, makes almost impossible any understanding. Language ceases to have any meaning and the whole problem is placed beyond the reach of reason.—G.B.R.

Downright Misrepresentation

The Japanese Menace in the Philippines

THE LAW OF THE BOYCOTT

ow short is human memory? How easy it is to see things the way we want to see them and find arguments and evidence to support our prejudices and preconceived conclusions? Does anyone now recall the Chinese boycotts against Japanese goods of the last decade, how Chinese merchants, monopolizing the retail trade of the South Seas (Indo-China, Siam, Malaysia, Dutch East Indies, Philippines and Oceania) were more active and intense in their patriotic fervor than their compatriots in the homeland? Does anyone remember how the Japanese Foreign Office time after time protested against this abuse of neutrality and how little consideration it received?

Japan's trade with these countries suffered relatively more than with China itself and there was no redress. The late Mr. Mannosuke Odagiri, Director of the Yokohama Specie Bank, and Mr. T. Funatsu, of the Japan Cotton Spinners' Association, as Japanese delegates to the Kyoto Conference of the Institute of Pacific Relations held in 1929, brought up this subject for discussion at the meetings, but the other delegates were more interested in trying to ascertain who owned Manchuria, and had no time for such subjects as boycotts and severance of economic relations as instruments to enforce Chinese diplomacy. These questions, vital to an understanding of Japan's policies, were not discussed. Had a little more attention been paid to these problems at Kyoto, the Manchurian Incident might never have happened.

Denied redress through diplomacy, and debarred from full and frank discussion of these issues at round-table talks, how was Japan to get her case before the world? What was she expected to do? How could she obtain redress? Was she expected to go to war and invite the hostility of the whole world? The Peace Pacts prohibited war as an instrument of national policy, but legalized economic sanctions, resorted to openly by China to ruin and bankrupt another state. As most modern wars are fought in the economic sphere, the Peace Pacts merely encouraged the Chinese to wage war within the law, while Japan could not defend herself.

Causes and Effects

So she endeavored to operate within the spirit of the Peace Pacts by sending her small merchants into these neutral South Seas territories, assisting them to establish themselves in the retail trade in competition with the boycotters. By these methods the Japanese have partially recovered their old trade position. The Japanese retail merchant undersold the Chinese, beat him at his own game, in his own strongholds, and drove him out of business. Thousands of these ruined merchants have returned to China unable to hold out and what is more important, the steady stream of capital for investment and funds for political agitation that flowed from these Overseas Chinese into Canton have almost ceased and the Kuomintang, which instigated and encouraged the boycotts, has lost one of its main sources of revenue. The great racket on which it relied for funds for political propaganda and revolutionary activity was cut off. Actual figures are not available, but it would be interesting to compare the losses inflicted on Japanese trade with the counter losses suffered by Overseas Chinese boycotters, and the decrease in their remittances to the home country. These things have a way of balancing themselves.

Chinese boycotts of Japanese goods in China benefitted a few American and European firms trading with that country and drove the Japanese out into the world to seek other markets. What American and European trade profited in China has been more than offset by what their manufacturers, shipping companies and allied interests have lost in the markets taken from them by the Japanese. There is so much wild talk and editorial fulminations about "the Japanese menace," especially in the United States, that it is well that this truth be driven home, so that the most hidebound, prejudiced sentimentalist can grasp and understand it.

At the risk of tiresome repetition, let us again restate the formula.

At the end of the World War, Japan's trade with China was 45 per cent of her total trade. With the United States, it was 25 per cent. At that time, Japan very naturally looked upon the China market as vital to her existence. But American and British firms whose trade had been hampered during the war, insisted that it had been won at their expense. Taking advantage of the unrest caused by the Shantung decision at the Peace Conference, an Anglo-American group directed the anti-Japanese agitation that followed, aiding, abetting and encouraging the Chinese to resort to a boycott against Japanese goods. Boycott followed boycott during the decade 1920-30 and, as Japan's trade with China declined from 45 to 23 per cent, the Japanese were forced to find other outlets. American and British trading firms in China profited immensely from these boycotts and secretly encouraged the Chinese to keep them going. American newspapers were loud in their praise of this method of waging war. Without this foreign support and encouragement, the Chinese would never have dared to carry their anti-Japanese movements to the extreme of confiscating Japanese goods, imprisoning traders, inciting riots and placarding the main streets of Shanghai with incendiary posters.

How it Worked Out

Had the Japanese been permitted to hold and expand their trade in low-grade commodities in the low-priced Chinese market they would have been contented and pushed their natural advantage to the utmost. But Americans and British would not have it that way, so we helped the Chinese to push them out, hoping that China's "severance of economic relations," boycotts, seizure of goods and resort to war within the Peace Pacts would inflict the same damage, suffering and ruin as outright League sanctions. These drastic measures drove the Japanese over the Seven Seas to seek other low-priced markets and they found them.

As their goods displaced American and British manufactures, we set up a howl of righteous indignation and hastened to protect out interests. The British practically closed their markets to the entrance of Japanese goods, while the United States used its powerful persuasive methods on its Latin-American satellites, applied quotas at home and in the Philippines. A vicious trade war is now on. For every dollar or pound a few American or British traders in China profited by these Chinese boycotts against Japanese goods, American and British manufacturers and their allied and associated interests at home have lost two or three as the result of the Japanese invasion of their preferred markets in other parts of the world. What, then, has it profited the United States and Great Britain? For the United States, these Chinese boycotts have had an effect their sponsors could not foresee. As Japan's trade with China dwindled, her trade with the United States advanced, reversing the post-war figures to where Japan's trade with the United States is now nearly 45 of her total trade, creating bonds of interest which make for a revision of policies and peace instead of the war envisaged by the Chinese and their advisers. Yet the same group of misguided, narrow-minded, bigoted and incompetent enthusiasts who brought this calamity upon American and British industry and trade, is still in the saddle influencing our diplomacy and encouraging the Chinese to hold out in their resistance against Japan through boycotting her goods.

The same clique of pro-Chinese American and British newspapermen, editors, missionaries, educators and uplifters whose incomes are not affected by this trade revolution are still wielding their snickersnees hamstringing the industry and trade of their respective countries. They point proudly in official reports and newspaper articles to the great and wonderful increase of their trade with China, but hav'nt sense enough to see the figures on the other side of the balance sheet. We can only conjecture how far American and British economy and prosperity has been affected by this sentimental, one-sided diplomacy and misplaced sympathy, and God only knows how much we will have to pay for it in the future. If present tendencies are any guide, we may ruin ourselves and drag civilization down with us before it is all ended. It is high time that, Americans especially, should give consideration and study to these figures and what they mean. The moral of the lesson that is forced on us is that boycotts do not pay, and when one privileged nation resorts to undeclared war through severance of economic relations within the peace pacts, somebody else must pay the bill. If it could end where it stands to-day, there is still hope of re-establishing some semblance of balanced trade, but as we review the arguments advanced at the Naval Conference now in session in London, the conviction is forced upon us that the full bill has yet to be paid.

Situation in the Philippines

The last time we had occasion to refer to Chinese activities in the Philippines, the official reports of the Government stated that ninety per cent of the retail trade, in addition to a practical monopoly of the rice trade of the Islands was in the hands of the Chinese. In fact, the Philippines had become the preferred economic colony of Canton. There was no great outcry against this alien economic conquest. True, the Asiatic exclusion law had been extended to the Islands, but it did not stop the steady illegal entrance of Chinese, smuggled in the same manner as they evade and set at naught the immigration laws of the United States. At the behest of the beet sugar interests, Congress enacted land laws and other legislation in order to preserve the Philippines for the Filipinos and prevent their development by American capital, and in so doing handed the Islands over to the commercial exploitation of the Chinese. With a practical monopoly of the trade, catering to the everyday wants of the Filipinos, it was not essential for Chinese capital to invest in lands, industries and other activities where they would come into direct competition with Americans.

The profits from the retail turn-over is probably more than the combined profits from all other commercial activities. If we calculate the actual living costs at five pesos per month per individual, or sixty pesos per year, the retail trade of the 13,000,000 inhabitants would be valued at Pesos 780,000,000, ninety per cent of which is Pesos 702,000,000, while the profits may be placed at twenty per cent per year, or Pesos 140,000,000. This is merely a haphazard estimate, subject to modification, but it is near enough to stress the importance of a business controlled by an alien race with the power of applying and enforcing the boycott against the goods of another nation with whom the United States is at peace.

Where there exists no governmental or diplomatic machinery to enforce respect for neutrality in these Sino-Japanese quarrels, and where sentiment is so overwhelmingly anti-Japanese and pro-Chinese, there is no redress for the boycotted. As a result, three or four years ago, the Japanese began to fight back in the only way open to them. They established retail stores throughout the Islands, stocked them with Japanese goods, cut their prices and regained their market. To-day, it is claimed that they control 35 per cent of the retail business of the Islands, which would indicate that the Chinese monopoly has been broken and their hold decreased from 90 to 55 per cent.

The Howls of Anguish

When the Chinese dominated the retail trade and made and applied their own laws, defying even the government to impose certain book-keeping regulations, it was quite legitimate and provoked no protests, but just so soon as the Japanese made a little headway against this campaign to destroy their business, they become "a menace" and the cry goes up to High Heaven that they are invading the Islands for the purpose of transforming them into a Japanese economic colony, the first step towards ultimate conquest and annexation. So we are now being treated to "startling disclosures" concerning Japanese commercial activities in the Philippines in a report to the American Government from official sources in Manila. According to the International News Service, this report is said to disclose that Japanese merchants in the islands are underselling Amrican goods by 10 to 50 per cent, and as a result, now control 35 per cent of the retail business with investments that total millions of dollars.

Japan, according to the report, launched a systematic campaign three years ago toward economic control of the islands, without waiting for any United States officials to be withdrawn with establishment of the Commonwealth Government.

"In every instance Japanese imports have increased and American imports decreased. Japanese cotton piece-goods increased about 150 per cent in volume during the first six months of 1934, while imports of the same American-made goods decreased by 45 per cent.

"Other markets in which the Japanese are under-selling include electrical equipment, fish and dairy products, chemicals,

iron and steel and machinery.

"In 1932 the groundwork was laid for a new Japanese mercantile offensive. Freeing themselves from dependence upon Chinese retail outlets. Japanese importers established branches in Manila, Davao, Cebu and Iloilo for the importation and distribution of Japanese goods. They encouraged their own nationals to start retail shops in every city and town, aiding them with consignment shipments and long credit terms. The combination of near, well-run Japanese shops and inexpensive and presentable goods has had its effect, and now practically every town has a Japanese shopping district rivaling the older Chinese shopping districts in size and activity.

"The intensification of Japanese competition is evidenced not only by Philippine trade figures but by efforts of the

Japanese to consolidate their position."

The above statement starts out by creating in the minds of the reader the idea that the Japanese deliberately launched a systematic campaign to obtain economic control of the Islands, and then gives the figures to alarm American manufacturers and intensify already strained political relations. The report might have added a line or two explaining the Chinese monopoly and boycott situation that influenced Filipino consumers to invite the Japanese to open their own shops in order to free them from dependence on the Chinese, and the further simple statement that only by such measures could the Japanese protect their interests. This adherence to the truth would have given an entirely different aspect to the situation. Apparently, however, these anti-Japanese reports in which only half-truths are stated, are circulated for the set purpose of inflaming American opinion against Japan. It is bad enough to have to face Japanese competition without adding to the ill-feeling by downright misrepresentation.

All this is on a par with the alarming stories which come out of Davao about Japanese exploitation of that region. The real truth about Davao has yet to be told. It is a story in itself, but the great outstanding fact is that since 1903, when the Japanese colonists first took up public lands in the Davao district, over 2,000 Japanese subjects have been butchered by the fanatical savage Moro tribes and Japan has never demanded compensation or insisted that the American or Philippine Government extend the protection they were legally entitled to. Japan has always recognized the difficulty of preserving law and order in this outlying savage region and has never embarrassed or pressed the United States to discharge its international obligations. Should the Filipinos precipitate an issue over Davao and Japan is compelled to present her side of the case to the world, the revelations would be startling indeed.—G.B.R.

To Enlarge Shale Oil Plant

The Fushun shale oil plant,—Japan's challenge to the American, British and Netherlands' petroleum interests, will be greatly expanded in the next three years, at the total cost of Y.13,000,000, officials of the South Manchuria Railway revealed to-day.

The project, which will be put into operation next year, provides for the installation of additional machinery with total refining capacity of 9,000 metric tons.

The S.M.R., which owns the plant, expects to bring the production to about 200,000 metric tons of heavy oils and 180,000 tons of kerosene annually by 1939.

An appropriation of Y.4,500,000 for the initial part of the project is included in the budget for 1936-37, which has already been approved by the directors of the Y.800,000,000 concern.

The budget is now being considered by the Government. Mr. Yosuke Matsuoka, President of the railway firm, is at present in Tokyo.

Japan's Invisible Trade for 1935

RESIDENT Kenji Kodama of the Yokohama Specie Bank has issued his annual estimates of Japan's invisible foreign trade and in accordance with custom, makes a prediction of the course of trade for the coming year.

Japan's visible foreign trade in 1935 resulted in an adverse balance (excess of payments) of about Y.19,000,000. At the same time, the country's invisible trade resulted in an excess of payments of about Y.44,500,000, so that the total unfavorable trade balance was Y.63,500,000.

Although invisible exports improved, invisible exports showed enormous gains, with such items as investments in Manchoukuo and with China was better, but it is expected to be more adverse this year.

redemption of old South Manchuria Railway debentures making the result adverse. Tourists spent more and investments abroad were more profitable, but these two items could not offset the investments in Manchoukuo. Details of receipts and payments in the invisible trade of 1935 follow:

isible tra	ade of	1999	10110 M		
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					218,500
	1110110	y one,			76,000
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	Total				550,500
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					84,000
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*	Total	. • . • .			595,000
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1.4 All All All All All All All All All Al	ofit and Japan's emittance ants and ome et shippin et insurar oreigners' eyget eyget eyget overnmen g those for the second of the second o	rofit and interest Japan's overseas emittances from ants and mone one	rofit and interest from Japan's overseas enteremittances from Japan ants and money they ome	RECEIPTS cofit and interest from interest Japan's overseas enterprises emittances from Japanese of ants and money they bround the set insurance income inco	rofit and interest from interest a Japan's overseas enterprises



Mr. Kenji Kodama

In a note on "excess of payments in extraordinary accounts," Mr. Kodama says that this is the net result. Receipts are supposed to be Y.95,000,000 earned abroad by Japanese and invested by foreigners in Japan, plus Y.24,000,000 of miscellaneous income. Payments are supposed to be Y.70,000,000 spent in redeeming the old S.M.R. debentures and Y.280,000,000 for a batch of miscellaneous items, including redemption of other Japanese securities in

foreign currencies, payments in connection with the purchase of the Chinese Eastern Railway and investments in Manchoukuo. The adverse balance in these accounts is therefore Y.230,000,000, making it the dominant factor in the invisible accounts.

Mr. Kodama predicts that this year's visible foreign trade is likely to result in a small excess of imports. He feels that the Powers are not likely to remove or alleviate their restrictions on imports of Japanese goods. The Japan-Egyptian trade settlement is still pending. There is little hope for change in the barter trade agreements with the South American countries. Last year trade with China was better, but it is expected to be more adverse this year.

There can be little improvement in dealings with British India and the Dutch East Indies, he feels. These are all pessimistic factors.

On the optimistic side, Mr. Kodama points to the trade revival in the United States, to the favorable relations with Australia, to the continued purchases of goods by the Soviet Union in connection with the C.E.R. deal, to the active demand for Japanese goods in Manchoukuo and to the restoration of cordial relations with Canada. There is no need to be pessimistic, says Mr. Kodama.

It is natural for 1936 import trade to be active if exports prosper, he points out. Making rough estimates of trade volumes for leading goods, he says that exports of raw silk may be about 520,000 bales, worth perhaps Y.440,000,000; exports of silk, rayon and cotton textiles will be Y.75,000,000, Y.120,000,000 and Y.490,000,000, respectively. Exports of machines may be approximately Y.85,000,000 and canned and bottled provisions Y.55,000,000.

He estimates principal imports: Raw cotton at about 13,000,000 piculs, worth about Y.750,000,000; wool at 750,000 bales, worth about Y.230,000,000; iron and munitions goods at Y.250,000,000; machinery at

Y.110,000,000; crude and heavy oil at about Y.130,000,000; rubber at about Y.50,000,000; wheat at about Y.45,000,000; beans at Y.70,000,060 and coal at Y.50,000,000.

He figures that exports will be about Y.2,550,000,000 and imports Y.2,590,000,000, each rising about Y.100,000,000. Thus, the adverse balance will be about Y.40,000,000, a bit larger than that for this year.

MOSCOW SUBWAY WORK PROGRESSING

In an interview printed in *Izvestia* of January 14, John Morgan, American consultant on the construction of the Moscow subway, stated that he considers that in many respects this subway is superior to any underground railway in the world. Nowhere else, he states, can there be found such favorable radii of curvature and grades, a factor which enhances safety and rapidity of movement of the trains. The inconvenience to passengers caused by jars or by creaking of wheels on difficult curves is reduced to a minimum.

The diameter of the tunnel of the Moscow subway is 5.5 meters as compared with 5.2 meters in New York and 3.7 meters in London. This permits the use of wider, more capacious cars.

All stations on the Metro are laid out in a straight line, which makes for safety. The minimum width of platforms is four meters (as against 3.5 meters in New York and 1.5 meters in Paris and London). This reduces the danger of crowding and permits easy movement of passengers.

Mechanical ventilation is extensively used, not only on stations but throughout the entire length of the tunnels. In the subways abroad mechanical ventilation is often not employed, reliance being placed chiefly on the action of the moving trains. Since there is no complete change of air, all that this accomplishes is the mixing of used air.

The stations on the Metro, finished with marble and with coffered ceilings, are of striking beauty. The latest sanitary technique is employed.

Mr. Morgan praised also the quality of the mechanical equipment and especially the strength of the concrete tunneling. He was impressed by the energy and enthusiasm of the construction workers, by the speed of tunneling (with the aid of the tunneling shield three meters of tunnel were dug each day) and the organization of the work.

One of the four stations of the Kirov branch of the line, the Okhotni Riad, is the largest underground station in the world built entirely by the tunneling method. It is 170 meters in length, 34 meters wide and 13 meters in height.

The work on the building of the subway so far has involved the use of 700,000 tons of sand, 1,225,000 tons of gravel, 375,000 tons of cement, 30,979 carloads of lumber and 98,000 tons of metal. A total of 2,311,000 cubic meters of soil was removed, a large part of it during the past nine months. In 1934 alone 741,000 cubic meters of concrete were poured. It is expected that the first section, 11.9 kilometers in length, will be placed in operation shortly.

Friendly Relations as Basic Trade Policy

Why Japan is Now Intensely Nationalistic

people against foreign Powers as evidenced in present policies, must cease if Japan is to hold her place in world trade, declares Mr. Yunosuke Yasukawa, Chairman of the Tokyo Rayon Company, in a startingly frank message to the Jiji Shimbun.

Mr. Yasukawa, for many years senior managing director of the world's largest trading concern, the Mitsui Bussan Kaisha, is well-known abroad as one of the foremost authorities on Japan's foreign trade problems. He speaks with a voice of authority. The wave of nationalism sweeping over Japan is traceable to the attitude of the League and the United States towards the Manchurian incident, and viewed from this angle it is difficult to see

how it could be otherwise.

Japan has crawled into her shell, turned her back to the rest of the world and is concentrating her diplomacy and commercial activities to extend her markets in China and Asia, threatening at times the use of force to overcome boycotts and agitations to penalize her for her actions in Manchuria. All this has been forced upon her by the verdict rendered by the League and the fear that when conditions are favorable, an attempt will be made to execute the sentence. The general hostile world attitude towards Japan leaves her no option but to prepare to defend herself, and if she now feels that there is no further necessity of catering to foreign

sentiment and opinion, she has much justification.

The verdict of the League and the possibility that if and when the European situation is settled according to League principles, the suspended sentence will be executed, has compelled Japan to consolidate control over semi-foreign enterprises within the country and eliminate as far as possible her dependence upon foreign advice, capital and supply of raw materials. This has found expression in the automobile and oil law, the formation of companies to grow cotton in Brazil and Manchuria, and the desire for economic cooperation with China. Probably no other application of international law has been productive of such intense anti-foreignism and determination on the part of an entire nation to make sacrifices for the preservation of its existence as the Stimson Doctrine of Non-Recognition. In the end, it may lead to a complete revolution in world trade with consequent disaster to many sections now enjoying practical monopolies of essential raw materials.

The Trader's Viewpoint

Mr. Yasukawa deplores a tendency that can only result in loss of friendships and intensification of animosities. He approaches the problem from the trader's viewpoint and in this he is right. But as long as the Stimson Doctrine is upheld as part of international law and the advocates of sanctions are loud in their demand that they be applied to Japan, there is little hope that those in control of Japan's policies will modify their present attitude. Mr. Yasukawa says in his message:

"Japan's foreign trade for 1936 must be considered as an extension of 1935 trade. Japanese goods met hindrances abroad last year. There was once great anxiety over possible dwindling of the foreign trade volume; but this has proved groundless. Actual trade volume was Y.4,872,000,000 setting an all-time record. This was also a gain of Y.545,000,000 over the 1934 figure, due, not only to cheap prices, but to great

efforts made by Japanese traders.

"Japanese traders have now exploited almost every overseas market. Cheap goods in any country are likely to be Japanese. In some countries demand for Japanese products seemingly is going off, but in reality the demand is heavy and they are simply being obliged to hurdle high tariff barriers. Large amounts are being smuggled into certain countries by traders, who are making good profits by doing so. This condition is expected to continue and the export prosperity will not stop. "One noteworthy influence on this year's foreign trade will be the business recoveries of the United States, Great Britain

and other countries. If this prosperity becomes firmly rooted, it will affect the whole world favorably. If this comes about, the Powers may not stick to economic nationalism and may end their vigorous policies against Japanese commodities, as they are alive to the fact that pursuance of such policies runs against the principle of free economy. This development may take place gradually this year. The economic self-sufficiency of various countries is the basis of the drives to encourage domestic industries without considering profits or costs, with the idea of relieving unemployment, of stabilizing currencies and of preparing against emergencies. If the world's prosperity is restored, the Powers will certainly turn to free economy. "But we must remember that competition in the export market will grow keener with the adoption of such a free trade policy. With economic recovery in foreign countries, their commodities will become better able to compete. It is important that Japanese traders make preparations to meet this competition.

"I should like to call attention of the Government and people to a terrible tendency which is running wild among them. They are inclined to take rash and vigorous action against foreign countries, taking advantage of the prosperity of the export trade. This is a tendency which should be put down as much as possible. Foreign trade should be reciprocal. The give and take policy should be its guiding principle. Japan alone cannot obtain a dominant position in international trade. It is a gross mistake to imagine that Japan's military power should ever be used as a background for efforts to make

foreign countries buy Japanese goods.

"Government leaders concerned must consider this carefully, basing the country's foreign trade expansion on a sincerely friendly policy. It is necessary for Japan to be friendly with any and every country. Reckless application of the Trade Protection Law must be avoided. Friendly relations with the Powers should be the basic foreign trade policy."

Problems of the Situation

How can this ideal be attained in the face of the League's verdict, the Stimson Doctrine and China's reliance upon foreign Powers to undo what Japan has done in Manchoukuo? Outwardly polite relations still exist; but they are the relations between the judge and the criminal who has been unfairly tried, convicted and stands in the dock awaiting a sentence the judge hesitates to impose. The court is hoping that Japan will admit her guilt and throw herself on its mercy. This, Japan says, she will never do. In the meantime, nation after nation is raising trade barriers, boosting tariffs to where they are almost prohibitive, applying quotas and closing their markets to Japanese goods, while the Great Powers are feverishly augmenting their armaments with the declared intention of upholding and enforcing their policies in Eastern Asia.

Something of what Japan is facing is seen in the news dispatches from London on January 9, in which it is reported that the British Foreign Secretary is contemplating an Anglo-Japanese agreement regarding Far Eastern questions. The Japanese Government is reported as being reluctant to discuss any such agreement, seeing in it an attempt on the part of Britain to protect her interests in China, while refusing to admit Japanese goods to the countries under her domination and checking their importation by means of high tariffs and quotas. If British controlled markets are to be closed to Japanese goods and they are then restricted under an agreement with Britain from free and full enjoyment of the Chinese market, the bright prospects held out by Mr. Yasukawa for the coming year will be difficult of realization. Friendly relations, as a basic trade policy, means little as long as Japan is compelled to be ever on her guard against some move that will give effect to the verdict standing against her at Geneva and the implications of the 5-5-3 naval ratio.—G.B.R.

Why Japan Forges Ahead

The Spirit and Morale of the Japanese Workmen

By G. FUJIWARA, President of the Oji Paper Manufacturing Co., Ltd.

APAN as an industrial nation has made phenomenal progress, surpassing the West in many points. This is particularly true of the spinning industry which has completely outstripped Manchester, once supreme as the world's greatest spinner. Progress in Japan's commercial dye stuff industry is indicated by the fact that German manufacturers, seriously concerned with the rapid progress of the industry in Japan, have been making strenuous efforts to reach some kind of selling arrangement with the Japanese. In the manufacture of commercial fertilizers, Japan has already outlived conditions which necessitated imports from abroad and is now prepared to become an exporter. Developments such as these may be witnessed in every other branch of industry.

Manchester cannot compete with the Japanese spinner because the latter can produce cotton cloth at a cost about 50 per cent lower that the former. High tariffs everywhere bar Japan-made bicycles, but the article has been making its way into all the countries of the world. American duty against Japanese bicycles is said to be 100 per cent; Japanese bicycles are, however, sold in

New York at half the American price. And manufacturers state that they can realize a profit at such prices. Electric bulbs may be produced in Japan at half the cost, or less, in comparison with production costs in the West.

The rapid industrial progress which Japan has achieved during the past half century is, indeed, phenomenal, and the causes are not far to seek. First is the spiritual discipline in which the Japanese people have been tempered for centuries and the excellent workmanship resulting from such discipline. The energy and industry of the people, the simplicity of Japanese mode of living and the system and cooperation they display in industry may be counted as other contributing factors.

One outstanding national trait which differentiates the Japanese from the Chinese or Occidentals is the high morale of Japanese workmen whose every effort is marked by the striving of the spirit instead of being based entirely on material considerations. It is true that they take into consideration the material things of life, but high spirit is a distinctive feature of the Japanese. Bushido, or the Way of the Samurai, may be regarded

as the expression of this Japanese spirit in military arts. This same spirit has been demonstrated in commerce and industry, and them material gains were of little account. They were ever ready every other aspect of national activity. A few anecdotes may be more illuminating in this regard.

Yoshihiro Goh was one of the greatest sword makers who lived in the latter half of the 13th century. One day the Emperor Fushimi ordered 18 of the greatest swordsmiths in the country to weld one sword each. Yoshihiro who was confident that he was the greatest swordsmith in the country was certain that the weapon he created for the Imperial order would be selected as the best of all. Contrary to his expectation, however, the blade made by Masamune had the honor of being selected as the best of the 18 swords.

Disappointed and indignant as he was, he concluded that Masamune must have bribed the Imperial court functionaries to have his sword selected. He resolved to see Masamune personally to discover whether the latter had betrayed the honor and dignity of his art. In such frame of mind, Yoshihiro walked all the way from Matsukura, Etchu, to Soshu, where the workshop of his rival

long and silently as Masamune hammered over his anvil. Then as if something had flashed across his mind, he suddenly walked into the workshop to interview the famous swordsmith. Yoshihiro then confessed to Masamune that he had come to kill him but that he had changed his mind. "I was watching, from the window, how you worked and am convinced that you are a better swordsmith than I am," he said to Masamune. "I am very fond of sake and always have a bottle of it by my side as I go about my work. In summer time, I always strip off my clothing when I work. As I observed from the window, I noticed that you had purified every nook and cranny of your workshop and sanctified it by hanging the sacred straw rope around the walls. You and your pupils are irreproachably dressed in correctly creased garments, as all swordsmiths should be. As you swing your hammer, I saw that your soul and every ounce of your strength

was situated. As he approached the forge of Masamune, he heard

the anvil ringing busily. Yoshihiro peeped through a window of

the workshop to see if his rival was at his labors. He watched

were concentrated in every stroke. Little wonder is it then that you were able to weld the famous sword. I realize now that mere skill cannot produce a great sword. I beg you kindly to accept me as your disciple."

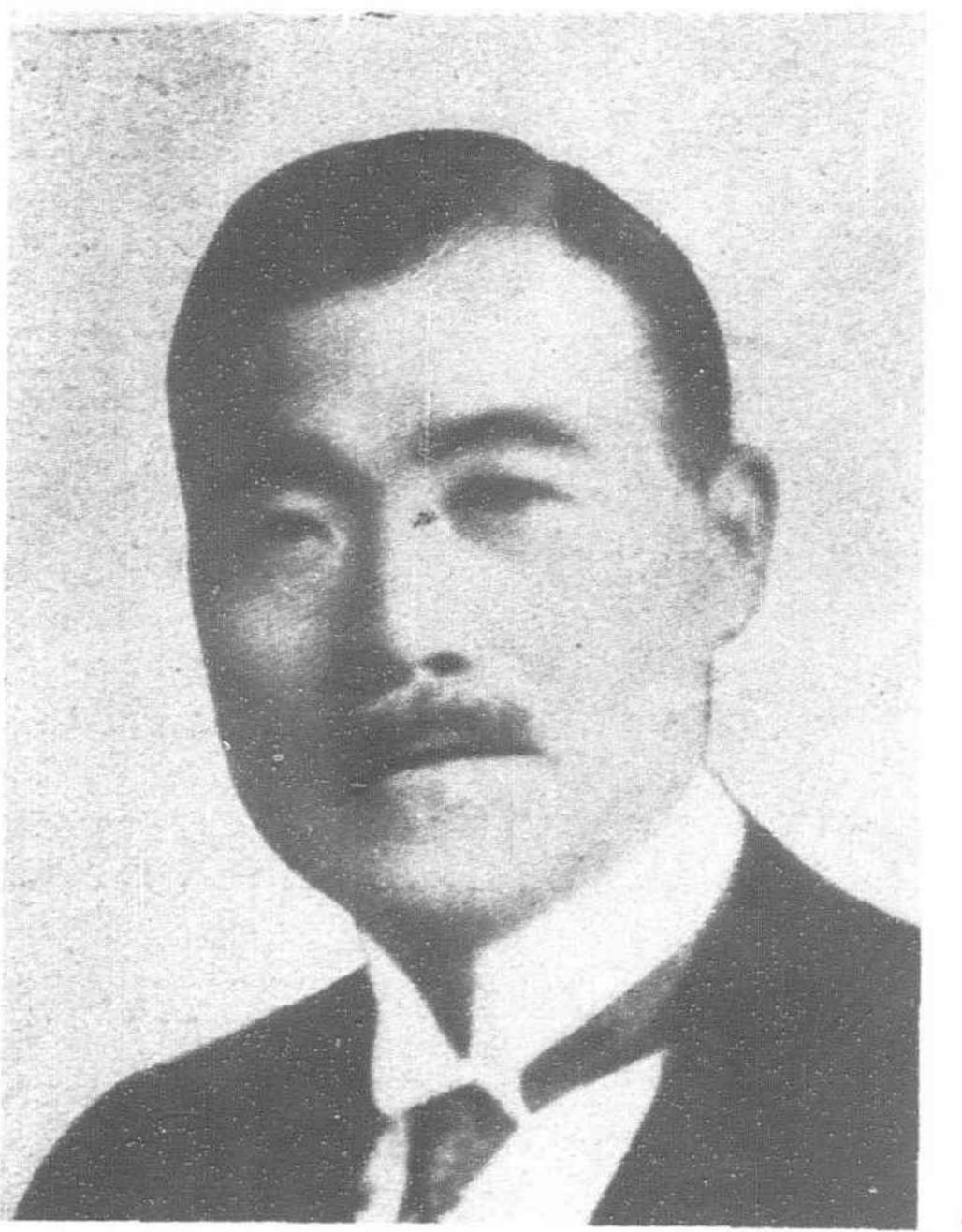
Yoshihiro thus received spiritual discipline from Masamune and became one of the three greatest swordsmiths of his time, the other two being Masamune, his master, and Yoshimitsu.

Again there is the story of Harima, an armor maker, who made himself famous in the latter half of the 16th century for his ability to produce armor which could not be pierced by a bullet. He made an outfit at the order of Nobunaga Oda, a famos feudal warrior in Japan's history. "Are you certain that this armor will withstand the bullet?" asked Nobunaga when Harima himself delivered it to the warrior. "If you are so confident, put it on yourself and I will test it with my gun." Harima, without fear or dismay, donned the armor because he was absolutely certain that armor which he had made with all his soul would not betray his words. Nobunaga trained his gun and fired. The bullet struck, but Harima stood on the spot quite undisturbed, thus showing the spirit in which the master

armorer had gone about his work. Japanese artists and artisan's worked in the same spirit. To to sacrifice their lives to preserve their professional honor. Anecdotes illustrating the spirit toward their work are many and interesting.

Tsuneyori Hamano was a famous wood carver in the latter part of the Tokugawa regime. His father died when he was 12 years old. For 10 years, he tried to be a wood carver to succeed in his ancestral profession, but in vain. He was awkward, and there was little hope of his ever being able to maintain his reputation as a wood carver. Shinbei Yorozuya, in Shiba, was the only dealer to whom he could sell his products. One day, Shinbei remonstrated with him with the intention of spurring him to greater effort, telling him that his work was getting worse and that he had better die than live and stain his father's good name as a wood carver.

Tsuneyori listened to Shinbei with tears in his eyes. When he returned to his home, he sat by his mother's sick-bed and requested her to give him leave of absence for a few years. His



Mr. G. Fujiwara, President of the Oji Paper Manufacturing Co., Ltd.

mother who sensed that her son was going to commit suicide out of shame said: "You are planning to end your life! A fellow with so weak a mind as to dodge his obligations by ending his life, leaving his sick mother alone in this bleak world, is not worth

living. You may go ahead and die."

Tsuneyori thought that he was forsaken by his mother whom he loved with all the love a son could feel for his mother. He walked towards the kitchen like one in a dream. He threw a rope across the beam and was about to hang himself when his mother said: "Stay, my boy. Before you die, carve an image of Kwannon to whom I have been devoted all my life. I will always have it with me as your keepsake." The young man started to carve an image of the Goddess of Mercy next morning, as his mother had asked him, and finally finished it, spending three days and nights hardly eating or sleeping during that time. As it was his last work and a keepsake for his mother, he concentrated all his soul in the work and finished it with prayers. When he presented it to his mother, she exclaimed: "O, this is a wonderful piece of work. This is not inferior to any of your father's works. Go to Shinbei and ask 40 ryo for it."

When the young wood carver produced the image of Kwannon before Shinbei, the dealer was surprised by the excellence in the workmanship and thought that it was a piece left by the late father of the young fellow. When Tsuneyori explained the circumstances under which he carved the image, he instantly understood that it was the work of the youthful artist fired by a great aim, and was more than glad to pay 40 ryo. "Hasten home with the money," he said, "for I feel something disquieting about your mother."

When the young wood carver returned to his home, he found that his mother had committed suicide by piercing her throat with a dagger. A written will by her bed-side stated that she could now die in peace since she had seen the wonderful image of Kwannon, bidding her son to put all his soul in his work, improve his workmanship in the future, and to maintain the honor and dignity of his ancestors. This shows the spiritual attitude of the mother and

her son in devotion to the profession.

I have at one of my factories a very efficient worker, whom I consider the leading expert in paper manufacturing in Japan. I sent him abroad with the idea that he might learn something more in his profession. I was told that he took a dagger with him when he left Japan for the United States. One day I asked him why he took the weapon with him when he went to America. He hesitated to tell me the reason, but finally owned up that he was going to end his life if he could not maintain his honor among the American workers as an efficient representative of his craft in Japan. My instructions were simply for him to go to America to study more about the industry, but he had taken his task very seriously and went on his mission with the great determination not to tarnish the reputation of what is meant by an efficient Japanese worker. I appreciated his spirit and high sense of morale.

A few years ago, my company ordered from England a paper manufacturing machine. It was 360 feet in length and 142 inches in width, producing 1,000 feet of paper a minute. The installation of the apparatus was very difficult, for it would not work properly unless set up with absolute accuracy without the discrepancy of a fraction of one-tenth of an inch in alignment. The manager of the British machine maker proposed that his company had better send several skilled engineers and workers to install the apparatus because he thought that Japanese engineers would not be equal to the task, and that he would not be held responsible for any deficiency in its operation due to inefficiency in installation.

The management of the factory in which the apparatus was to be installed positively refused to have any help from outside. But the company insisted on sending its engineers and workers, and we exchanged telegraph messages several times over the affair. The upshot of whole thing was that we finally decided to install the

apparatus ourselves.

A few days before the installation of the apparatus was fully completed, the British engineers arrived suddenly and wanted to know how the Japanese mechanics were getting on with the work. After they visited the factory, they were convinced that the apparatus was placed perfectly and admitted that Western mechanics could not have done better. They returned home on the same boat by which they had come. As a matter of fact our engineers had adopted a far more efficient method of installation than the one usually followed by the British company.

When the installation of the apparatus was fully completed, we held a dinner party for the members of the factory staff who had carried out the work. At the table, they confessed that they were determined to do the work to defend the honor and dignity of Japanese mechanical engineers and that they had intended to end their lives in the event they had failed to discharge their work creditably. They said they went about their task in the spirit in which Masamune welded his sword. The Japanese are thus ever ready to demonstrate their spirit and morale whenever they are called upon to do so.

In any discussion of political, legal or social questions, one is apt to praise the deeds of those who lived in by-gone days, holding the present too calculating, frivolous or shallow. It may be expedient to speak thus in educating young people. And doubtless such a view point is emphasized at the present time. I realize, however, there is no need to denounce always the people of to-day, while praising only their predecessors. Present day people are the descendants of those of former days and have all the hereditary traits of their ancestors in more or less degree, inheriting the blood which flowed for countless ages through Japanese spiritual discipline and training. It was because the Japanese people have such ancestral backing that they were able to digest the civilization of the West in half a century.

When Western industry was transplanted to this country, all the people interested in it from top to bottom exerted efforts in mastering it and improving on it, demonstrating their ancient spiritual inheritance. It was this spiritual ideal that enabled them to make such phenomenal industrial progress. Our special spiritual trait inherited from our ancestors has asserted itself in our industrial activity, as it did in the army, the navy, in commerce, communica-

tions and in all other aspects of Japanese national life.

The Japanese people are very industrious in comparison with any other people. In Western countries, the people work just so many hours a day and do not think of working any more. In Japan, workers may go to office at 9 o'clock in the morning and leave the office at 5 o'clock in the evening, taking one hour at noon for lunch time. But all companies in Japan maintain at their offices and factories a system known as "shukuchoku" (keeping night-watch), requiring, in turn, members of the office and factory staff to remain on duty for night watch.

Suppose a fire breaks out in a factory at, say 1 a.m. The incident would be instantly reported by telephone or telegraph to the head office and from the head office to the president of the company and other members of the staff. Under this arrangement, the management of the company may prepare several hours ahead of a company in the Occident under a similar predicament. This is an illustration to show how industrious and faithful the Japanese are. In the West, workers work so many hours a day and all go

home. Such a system would not work in Japan.

Another contributing factor for the realization of rapid progress in Japanese industry is simplicity in the Japanese mode of living. Westerners, ignorant of conditions in Japan, are liable to say that producing costs in Japan are low because the people live very poorly under the persecution and exploitation of capitalists. The International Labor Office representative who visited Japan last year was convinced that there was no exploitation of labor or social dumping in this country. He published a report of his investigations, the contents of which vindicated, on the whole, Japan's industrial methods.

It is true that labor wages here are far lower than in the West, but the mode of living is simple and not costly. The operative at a spinning factory, for instance, gets about 70 sen a day. She is provided with a good dormitory, and her living expense is 15 sen a day. The general expense, including car fare when she goes out, footware and so forth may be estimated at 15 sen a day. This indicates that she may save 40 sen a day to prepare for her

marriage or send to her parents in the country.

One may suspect that the kind of food served for three meals at 15 sen a day must be very poor, but in reality such is not the case. The gas used in the kitchen, water and utensils at the table are all provided by the company gratis. The principal diet is rice and the side dishes are usually vegetables and fish of one kind or another which contain sufficient nutrition for anyone. This may be ascertained at the Government Research Institute of food nutrition. It is true that we do not eat as much meat as Westerners do, but what we eat is sufficient to enable us to compete with any Occidentals, exerting as much bodily and spiritual strength as they do.

Low cost of living does not imply a low condition of life. The Western people, in order to eat animal meat must, have great expanses of pasture land to graze their cattle, must raise winter feed for them, must employ many persons to take care of animals and so on. The producing cost of animal meat is very great, and Western wages must necessarily be high in order to provide such meat. The Japanese eat fish. We do not have to feed fish or take special care of them as Occidentals do with cows, sheep and pigs. Japan is surrounded by water and all the cost required in producing fish is for the fishermen to go out and catch them. In times of big catches, fish are pickled or cured. At any rate, Japanese operatives at spinning mills, for instance, live far more happily under a healthier conditions than factory operatives in Europe. If they were exploited by capitalists, they could not live like "school children," as the representatives of the International Labor Office remarked.

When the British Economic Mission came to Japan headed by Lord Barnby, they visited a factory of my company. After inspecting the factory work, they came upon the dining hall, at lunch time, and were surprised by the fact that hot lunches were being served to operatives. The lunch consisted of rice, fish and vegetables. Lord Barnby himself tasted some of it and asked me how much it cost to prepare a lunch. It cost eight sen, but I told him that the price of one copy of the *London Times* would cover the

cost. He was again surprised.

Then he inspected the dormitories and the residential quarters, observing how clean and airy and flooded with sunshine they were. I told him that a dwelling house for a family of an operative is provided at a rental ranging from 20 sen to Y.1.00 and electric lights for

15 sen a month. Lord Barnby observed that the operatives and even the members of their families were provided with bathing facilities, utilizing exhaust steam instead of throwing it away. Everything he saw was a revelation and surprise to him. He admitted to me that low cost of living and poor condition of living were two entirely different things.

The report of the British Economic Mission was entirely satisfactory to us. Since the report was published, the harsh criticism in Europe against labor conditions in Japan have begun to disappear. Europe discovered that the solution of the problem of producing articles at low cost must be found by research work and investigation in fresh directions instead of attempting to

reduce labor wages alone.

Critics of low labor wages in Japan are not limited to foreigners. Some Japanese scholars and politicians criticize the low scale of labor wages here, comparing it with that of foreign countries, but it must be remembered that the cost of living is low as already pointed out. The house rent for a family of operatives at our factory is 30 or 50 sen a month, but in the United States a paper manufacturing company charges from \$20 to \$30 a month as rental for a house it rents to its operative. American labor has fixed a minimum wage and demands high wages. The company pays high wages and is not obliged to rent houses to its operatives at a low rental. In the West, the people do not live as simply as do Japanese, and they have to get high wages. As the company pays high wages, the cost of production is naturally high. It is this condition of affairs that makes it difficult for the Western manufacturer to compete with those of Japan.

A 100,000,000 Yen Research Institute

Oil from Rice Bran

539 HAT Japan is determined to win her place in the creative technical and scientific world, is seen in the announcement that the Cabinet Inquiry Bureau plans to establish a huge industrial research institute with a fund of from Y.50,000,000 to Y.100,000,000. Despite the fact that next to the United States, Japan has more government and private research laboratories than any other country, many of them are small and their activities are hampered and curtailed by the lack of adequate funds. It has been found necessary to suspend many important experiments concerning the industrial value of new ideas because of this limitation of finances, and the new institute is planned to complete many of these half developed ideas, and train engineers and scientists to seek the solution of many problems confronting the nation, due to its lack of essential raw materials and natural resources. The new institute, it is reported, will be organized as a corporation with a capital of Y. 100,000,000, to be raised through contributions from private concerns, while the Government will extend an annual subsidy towards defraying operating expenses.

Drawing attention to this trend of modern Japan, Dr. Dugald C. Jackson, President of the Society of Art and Academic Science of America, in a recent talk before the Pan Pacific Club of Tokyo,

said:

"I think that the Japanese have failed to bring to our attention in America, to the full or even to an adequate degree, the great development of education and liberality of government which you have here. They have brought to our attention their sentimental aspects, and their artistic aspects, but the great foundational basis of their education, which, indeed, is one to be envied, and the development of science and the way in which industries have been developed, have not been laid before the American people in a way they can understand. Very few Americans recognize that literacy in Japan is as high as in the United States. In fact, there are certain individual States (and we have 48 of them in our United States), which actually do not have as high a literacy as Japan, when we consider the principal islands. Very few recognize the high status of education and research in science in Japan.

"I think perhaps Japan is just coming to the edge of creative work and developments that will add to the strengthening of the bonds between the two nations, because we are great students of the psychological aspects of nations, as well as students of science and agriculture and industry. I think it might help if this club could suggest that the Americans do not know enough of Japan, for the best interests of both nations, from the standpoint of education and science."

The distinguished scientist overlooks that the modern newspaper is purely sensational in its outlook on world progress. The facts concerning Japan's literacy, educational, industrial and scientific advances, will be brought home to the American people only as some bright Japanese investigator discovers a new idea, process or formula, that threatens to undermine established American practice. Then, when the process is perfected and in operation turning out the finished product cheaper than we can do it with our high scale of wages, it becomes "a menace." Japan is well along the creative stage and the plan for the new industrial research institute is merely an announcement to the world that far from harboring aggressive designs on other countries, she is determined to exhaust every effort to find a peaceful solution to her problems through the discovery and development of new industrial, chemical and technical ideas.

Coincident with this announcement is one stating that the Physico-Chemical Research Institute, and the Rice Application Laboratory of the Ministry of Agriculture have jointly proven, after long experimentation, that oil can be extracted from rice bran, hitherto of little value except as fodder. This oil is highly suitable for soap-making, for salads, cooking, and in such industrial processes as the refining of raw silk, and the making of photographic films. Industrialists are not waiting for the technicians to perfect the process. Two factories have already been established in Tokyo, and another in Korea, and oil from rice bran is on the market for soap-making, selling at about 98 sen or Y.1 per kwan, or 8.20 pounds.

The Ministry of Agriculture and Forestry has great hopes for the new industry, for it is thought possible to develop it on a

(Continued on page 27)

Soviet Purchases in Japan

Fifty Million Yen for Machinery and Engineering Supplies

1935 by the Soviet Government as part payment of the purchase price of the North Manchuria Railway, Y.49, 000,000 is for engineering materials. In 1934, Japan's total imports of machinery, including automobiles and accessories, was Y.143,000,000 while her exports of machinery was Y.125,000, 000, of which, the Soviet Union took only Y.2,000,000. The opening of a new market in Siberia for Japanese engineering supplies as a consequence of the purchases from the North Manchuria Railway account, is bound to bring repeat orders that will permanently benefit Japanese machinery manufacturers. Could political differences between the two nations be amicably compounded and an era of understanding and peace ushered in, the development of Eastern Siberia would open up a permanent and profitable market for all kinds of Japanese engineering supplies with reciprocal advantages for Soviet raw products.

One of the outstanding items in the list of Soviet purchases in Japan comes under the head of shipbuilding. Twenty-three 4,000 ton freighters, small tankers, fishing vessels, dredges and various other small craft have been ordered from Japanese yards. There was some disappointment at first that the orders did not include any large ships, but it was pointed out at the time that even had such orders been placed, the larger shipbuilding yards could not have accepted them owing to the fact that they were busily engaged on construction of new freighters and passenger ships under the Second Ship Improvement Scheme. As a matter of fact, the larger yards such as the Mitsubishi, Harima, Kawasaki, and Mitsui, refrained from bidding on the Soviet orders permitting this work to go to the Yokohama, Uraga, Ishikawajima, Asano and Hakodate yards, who in turn sub-contracted with still smaller establishments for a part of the orders so that the industry as a whole could participate in the profits. It is noticeable however, that all Japanese companies refrained from bidding on or accepting the order for a 1,000 ton floating dock.

Mr. Vladimir N. Kotchetov, trade representative of the Soviet Union in Japan recently made public a complete list of the orders placed to date which showed that contracts have been signed with 150 Japanese companies for about Y.92,000,000 worth of goods in which boats, ships and engines of various kinds, followed by cables and wires, green tea and soya beans took the lead.

The statement follows.

"The activities of the Trade Representation of the U.S.S.R. in Japan in placing orders for the amount due to the U.S.S.R. in goods, under the agreement for relinquishing the rights of the U.S.S.R. in the North Manchuria Railway to the Manchoukuo Government were mostly completed about December 20, 1935.

"The total of the contracts concluded is approximately Y.92,000,000. The balance is reserved partially for covering charges connected with the shipment of the goods and partially for some additional contracts negotiations for which are still going on with various companies. These contracts we expect, will be concluded shortly.

"The goods purchased are divided into the following main groups:

Carra bann	~							Y.7,000,000
Soya beans	8	* *		* *	* *	* *		
Rayon								1,800,000
Various no	n-ferr	ous me	tals pr	oducts	* *			5,500,000
Fishing eq						ads)		4,000,000
Green tea	/		* *					8,000,000
Cables and	wires				10. 4	* *		8,400,000
Textiles			4.3					6,000,000
Cement					* *	* *	* *2	6,000,000
Various eq	uipme	nt (Die	sel eng	gines, se	emi-Die	esel en	gines,	
genera	tors,	locomo	tives,	lathes,	kerose	ene me	otors,	
compr					291. 91			17,000,000
Various fa	ts		a					3,000,000
Leather							* *	2,000,000
Various ve	ssels (s, dred	lgers, t	ugs, fis	shing b	oats,	
motor				2.3				18,000,000

 Chemicals and dyestuffs
 ...
 ...
 ...
 1,000,000

 Wheat flour
 ...
 ...
 ...
 2,000,000

 Miscellaneous goods
 ...
 ...
 ...
 ...
 1,500,000

"This list shows that the contracts were for a very wide assortment of commodities. The total number of contracts concluded with 150 Japanese companies is about 600.

"The main part of our contracts (with respect to the amounts involved) were concluded with companies of the Tokyo-Yokohama District and the Kwansai. However, a number of other districts have also participated in the deals, such as the Hokkaido, Shizuoka and Nagoya Prefectures, Kyushu and others.

"In the process of placing orders with various Japanese companies we experienced some difficulties which should be described as the usual commercial difficulties, unavoidably arising when the transactions are on such a large scale and cover so many varieties of goods."

In general however, the major part of our contracts were concluded on normal commercial terms and during the negotiations with the companies both parties considered the market conditions, the productive capacity and the quality of the goods.

"There is no doubt that the purchases made under the Chinese Eastern Railway agreement enabled us also to extend business relations with Japanese industrial and commercial companies.

"We may definitely state that concurrently with the desire of the Japanese companies to extend business relations with us there has been displayed also a considerable growth of interest on the part of the Soviet trading organizations for Japanese exports to the U.S.S.R.

"The contracts concluded with Japanese companies under which delivery of goods has already been effected afforded an opportunity to the Soviet Trading organizations to become acquainted with the production of various branches of Japanese industry.

"It is therefore quite evident that the goods purchased under the Chinese-Eastern Railway agreement may become the object of future exports to the U.S.S.R. and that the experience gained during the period of placing the orders under the aforesaid agreement manifests the existence of real possibilities for the further development of Soviet-Japanese trade relations in the future."

A 100,000,000 Yen Research Institute

(Continued from page 26)

large scale. From the average annual production of 3,200,000,000 kwan of rice; about 300,000,000 kwan of bran should be obtainable. For fodder or fertilizer, the bran sells at present for about Y.1 per 10 kwan. Its oil content is placed at about 22 per cent.

The oil is said to be especially good for the making of soap, and it is for this reason that the factories already at work are concentrating on this use. Their presses are said able to extract from 12 to 15 per cent of the weight of the bran in oil, but the Physico-Chemical Research Institute is experimenting to recover the whole 22 per cent of oil through a chemical process. The Rice Application Laboratory is endeavoring to simplify the methods of refining the oil. In the near future, high-grade oil from this source should be available, it is said, for a large variety of uses.

The oil is akin to peanut oil, and those in charge of the extraction plant of a certain Japanese rice mill in Korea claim that it is excellent as a medium in which to fry fish and vegetables. The residue is good for fertilizer, and can even be made into biscuits.

A Billion Yen Building Bill

An Index to Japan's Progress

OME idea of the Japanese market for structural steel, tools, elevators, cement, building materials and hardware of all kinds is conveyed in the statistics compiled for the year 1933, by the Building Bureau of the Tokyo Metropolitan Police Board. This shows that the total expended on building construction in the whole of Japan Proper for that year was Y.973,874,400. This nation-wide inquiry, the first ever made in Japan, covered 500 cities, towns and villages, in order to comply with Finance Minister Takahashi's request for such data as a barometer of the National prosperity. The above figures will serve as the basis for future calculation of the nation's internal progress.

The total represents all expenditures on new construction or the repairing of old buildings, whether private residences, office buildings or Government edifices. Private buildings covered Y.831,-000,000, Central Government buildings, Y.74,800,000, Prefectural Governments, Y.11,380,000, and cities, towns and villages, Y.56,-550,000. The City of Tokyo led with Y.118,937,000, of which Y.111,099,000 was invested by private persons or concerns, Y.6,115,-000 by the Municipality, Y.1,320,000 by the Prefectural Govern-

ment and Y.203,000 in the towns and villages.

In the figures for the entire country the total for new buildings reached Y.747,000,000, with Y.226,700,000 for repairs and extensions to old structures. The Bureau intends to compile similar statistics for the following years as a permanent record of the progress of national prosperity. Although Tokyo leads in the number of steel-frame earthquake-proof construction, Osaka is fast becoming a modern city. The coming year will be an exceptionally busy one in all lines of new construction in this great manufacturing center of Japan. Ten new steel frame skyscrapers each costing more than a million will be erected during the year.

First to be completed will be the new JOBK building, in Otemae, facing Osaka castle. Nine stories high, plus a basement, it will have a total floor space of 2,880 tsubo together with garage and warehouse.

Next will be the completion of the fourth stage of construction in the Hankyu block. This newest building, seven stories above the ground and with a double basement, will have a floor space of some 4,000 tsubo.

The Sumitomo steel foundry at Shimaya-cho, Konohana-ku, which has been under construction for two years at a cost of some Y.2,000,000 will be completed.

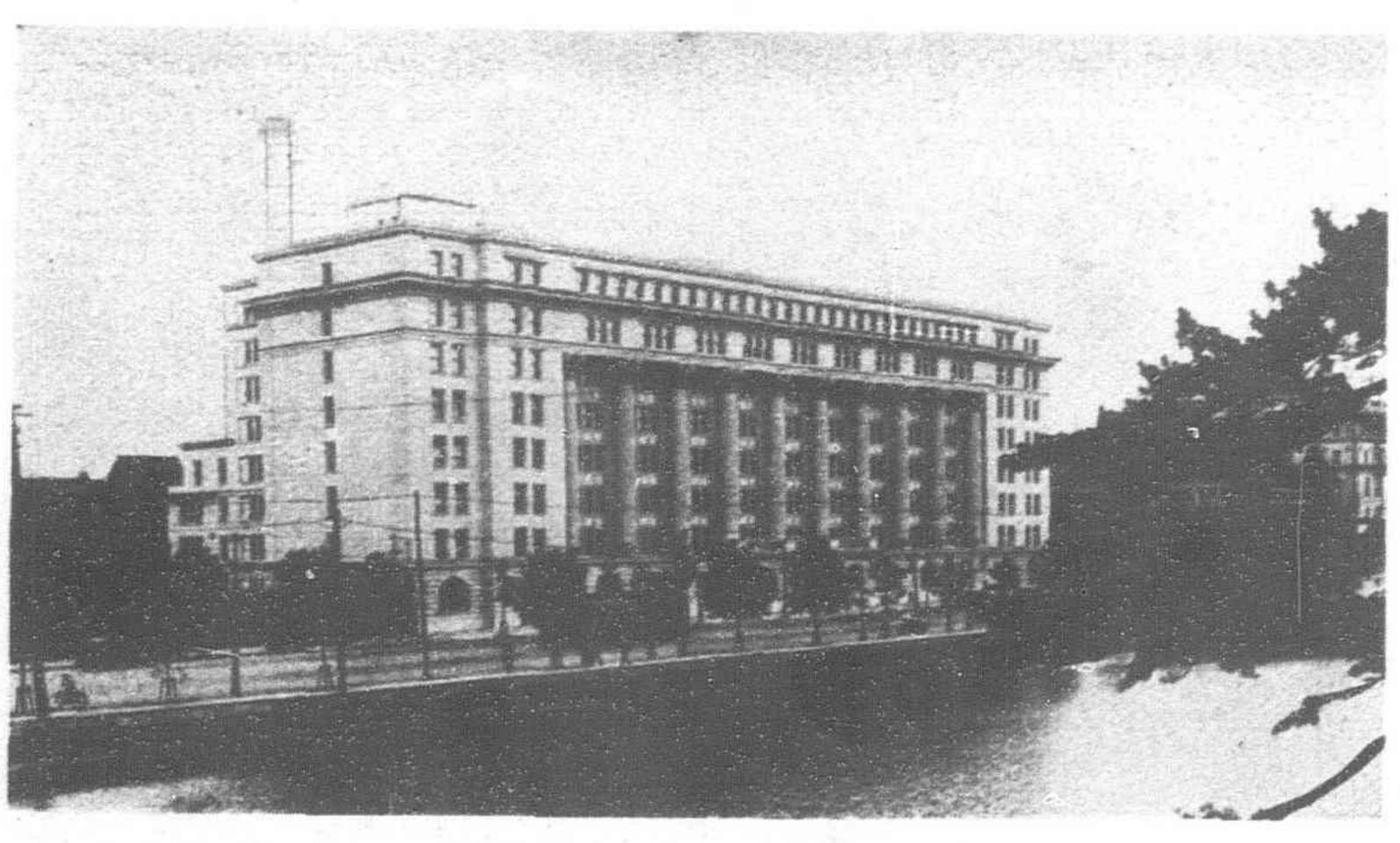
April will see the completion of the long-awaited municipal art museum, at Tennoji. Three stories above the ground, and including a basement, the building will have a floor space of 3,840 tsubo.

In May, will come the Mitsui Bank, in classical style, three stories high and basement, with a floor space of 1,650 tsubo, at Koraibashi.

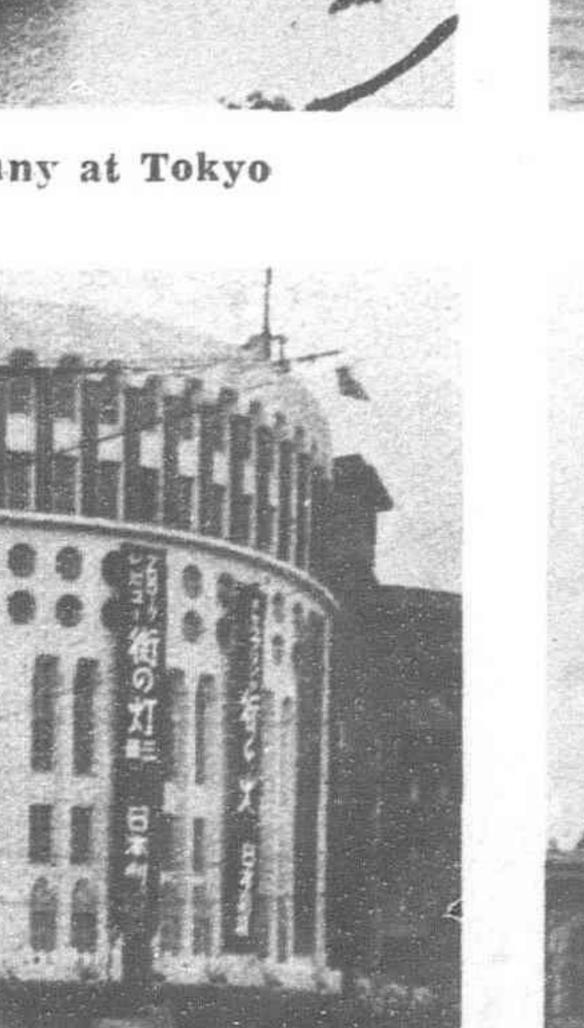
At about the same time, construction will be completed at the north-east intersection, Umeda Shinmichi, of the Kyodo Fire Insurance building, seven stories above the ground and with a double basement, a total floor space of 2,200 tsubo.

Featuring a planetarium and costing Y.5,000,000, the Electric Engineering Hall, pride of the Municipal Electric Bureau, scheduled to be the tallest building in Osaka, will be completed at Yotsubashi during September. Fifteen stories high, standing 170 feet in the air, this lanky building will have a floor space of 1,700 tsubo.

Not later than October, the addition to the Osaka Chochiku Bank at Fushimi-cho, Higashi-ku, will be completed, having four (Continued on page 40)



Main office of Meiji Life Assurance Company at Tokyo



Nihon-Gekijo Theater, Tokyo



Matsuya Asakusa store at Tokyo



Takarazuka-Gekijo, famous theater at Tokyo

Twenty-six Centuries

Preparations Being Made for Great Japan International Exposition to be Held in Tokyo in 1940

NE of the great forthcoming events in the Far East is the Japan International Exposition that is to be staged in Tokyo in the year 1940. This vast international spectacle, which is to run in cost to twenty million yen, and for which already elaborate preparations are being made, is being given in celebration of the 2,600th anniversary of the founding of the

Japanese Empire.

The whole historical record of the Japanese people from the earliest beginnings will be presented before the eyes of the world at the coming Exposition, according to plans on an immense scale that now are taking form. Particularly the epoch-making progress of the Empire in its emergence as a world power of first rank through the past eighty years will be shown vividly in a score of great structures covering hundreds of acres of ground. It is undoubted that the forthcoming exposition will rank among the greatest spectacles of this nature that the world has seen. The initial fund of Y.20,000,000 to carry forward the vast project will be raised by government subsidy and donations from Japanese organizations and individuals. The task of providing this fund is being done by a sponsoring committee. The first draft of the exposition plans, which will serve as the groundwork upon which the project will be organized, presents sufficient information to construct in the imagination a rough picture of what the exposition will look like in actuality. It calls for 25 large buildings which will house exhibits of various

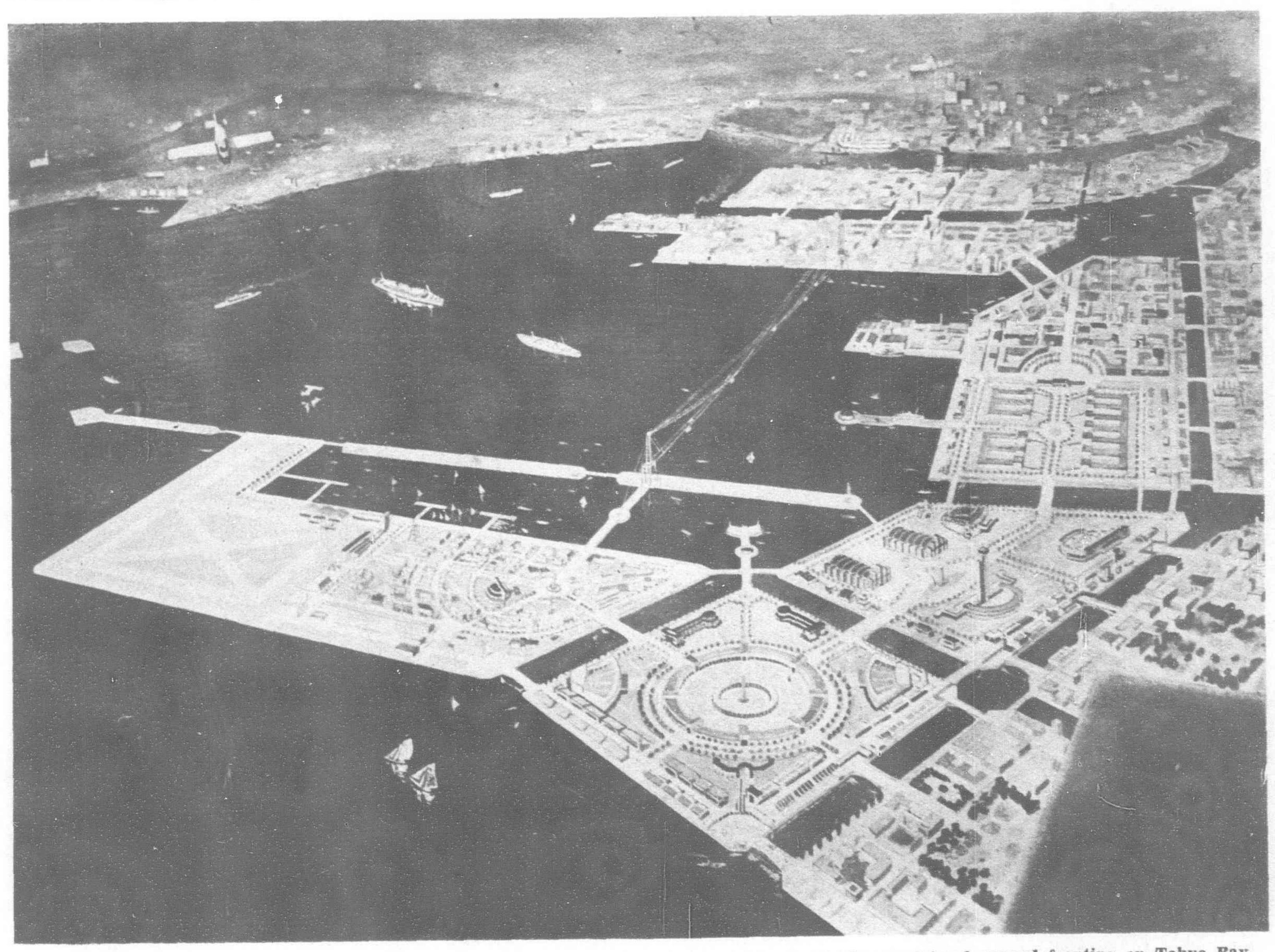
kinds; promenades, parks, amphitheaters, recreation and athletic centers, auditoriums and an airport.

The site selected for the fair grounds is in Tsukishima on a large area of reclaimed land at the mouth of the Sumida River, and at the head of Tokyo Bay, an ideal spot particularly because it is the probable future site of Tokyo's civic center. Should the 12th Olympiad be brought to Japan in the same year, part of the reclaimed area will form the site of a gigantic athletic center with a dozen stadia and other athletic fields, plans for which have already

been drafted by the municipality.

According to the prospectus, the exposition will endeavor to fulfil three major objectives; graphic presentation of Japan's industrial enterprises and their development in modern times; historical development and harmonization of Eastern cultures, and advancement of international understanding. The period of the exposition is from March 15 to August 31, a total of 170 days. If, however, Japan's bid for the 12th Olympic games is accepted next summer by the International Olympic Committee in Berlin, the period will be brought forward a month so as to terminate the exposition on July 31, and allow the games to open in August.

A total area of more than 800 acres, or about 14 square miles will be devoted to the exposition. In addition, 165,000 square meters, or about 40 acres, of the Shin Yamashita-cho reclaimed land in Yokohama will be devoted to another exposition that will



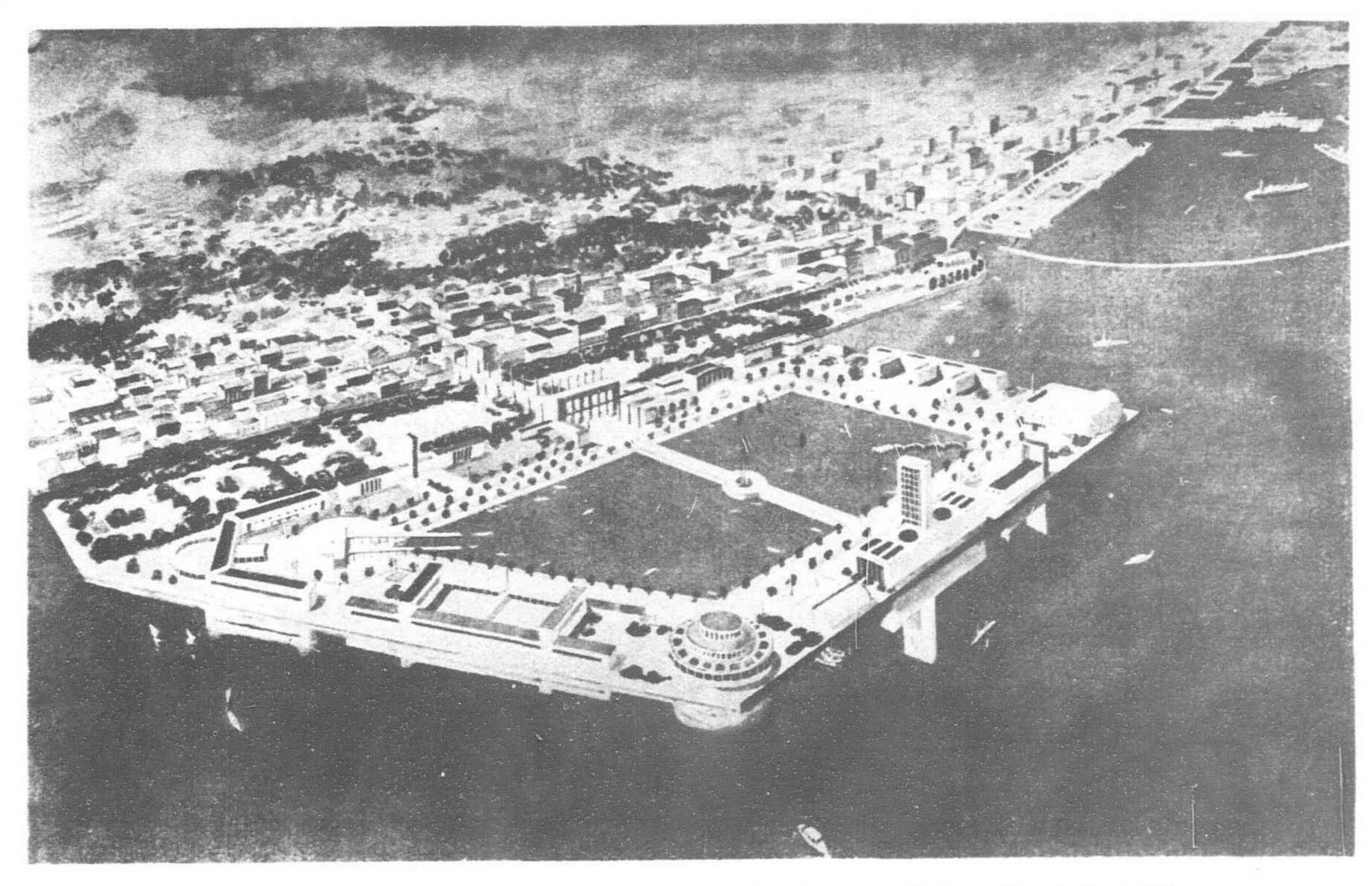
Tentative general layout of the Great Tokyo International Exposition in 1940 on the Tsukishima reclaimed ground fronting on Tokyo Bay

serve to welcome visitors from foreign lands who arrive there. The actual building space for the Tokyo fair will be 177,500 square meters, or about 42 acres.

Many groups have combined to form the organizing committee, the Japan International Exposition Association, of which Mr. Torataro Ushizuka, Mayor of Tokyo, is chairman. They include the Tokyo prefectural office, the Tokyo city office, the Tokyo Chamber of Commerce, the Tokyo Federation of Business Co-operatives, the Japan Industrial Association, the Japan Exposition Club, the Kanagawa prefectural office, the Yokohama city government, the Yokohama Chamber of Commerce and the Yokohama Federation of Business Co-operatives. Added to this, support will also come from the Government, colonial governments such as that of Korea and numerous industrial, commercial, educational and cultural organizations throughout the country.

The fund of Y.20,000,000 will be raised from a number of sources. The association is raising Y.950,000, and from the government subsidy and private donations Y.7,000,000 is expected. Estimating that about 11,375,000 persons will attend the exposition, or an average of 66,900 a day, about Y.9,100,000 is expected from gate receipts. From rental of floor space to exhibitors, shopkeepers, restauranteurs and others an income of Y.3,950,000 is expected. According to this estimate the exposition would come through with a surplus of Y.1,000,000, although the plan is to provide sufficient leeway to prevent it from ending with a deficit.

Two important questions are now before the organizers: What should be displayed? and how should the exhibits be displayed? In considering the first question the organizers and the numerous bodies which will support them are confident that Japan has plenty to show the world. And about the technique of effective display and general presentation, the organizers seem to be equally confident. Experience has been gained from participating in 46



Tentative layout for the Yokohama branch of the Japanese International Exposition

international expositions abroad, beginning in 1873, only five years after the Meiji Restoration when the nation was in the midst of radical economic and social changes, and continuing through the Century of Progress in Chicago, so the promoters are reasonably certain that they can put over the first big international exposition ever to be held in Japan. Back of that confidence is the success Japanese exhibits have achieved abroad.

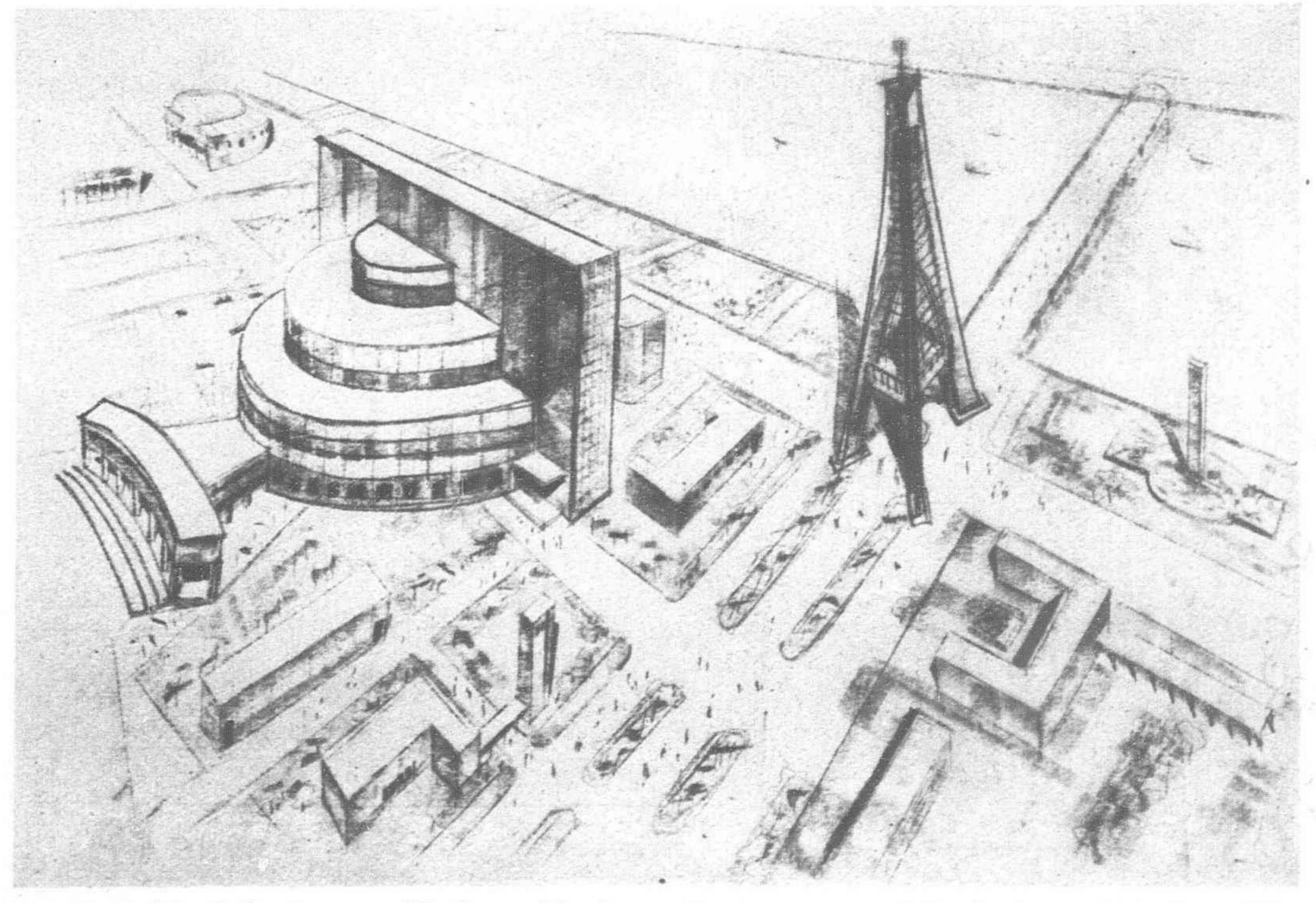
Although construction work on the exposition buildings in Tsukishima probably will not begin until the latter part of 1937, a rough idea of the edifices can be gained by the following general building plan.

Memorial Building

Probably the largest and the most gorgeous building that will capture the attention of fair-goers, because it is intended as a permanent one to grace one part of the future civic center, will be the Empire Foundation Memorial Building which will be con-

Japanese ideas of architectural design. This building will cover an area of 10,000 square meters, more than two acres, and will house what may become a permanent museum of Japanese history from the time of Emperor Jimmu. The exhibits, including relics, tableaux, paintings and other objects, will give a graphic review of the centuries of historical development of the Japanese nation and people. The principal object of this department of the exposition is to present and explain the "origins and essence of Japanese culture."

The Hall of Cultural History, covering 5,000 square meters, will contain a description of the cultural history of the world in the form of a display of material handiworks of man from ages past. The Hall of Education, which will cover 6,600 square meters, will show the various world trends in the field of education and religious development. The general progress and development in science will be outlined in the Hall of Science, which will take up 8,300 square meters, while the Hall of Social Progress, covering 3,300 square meters will



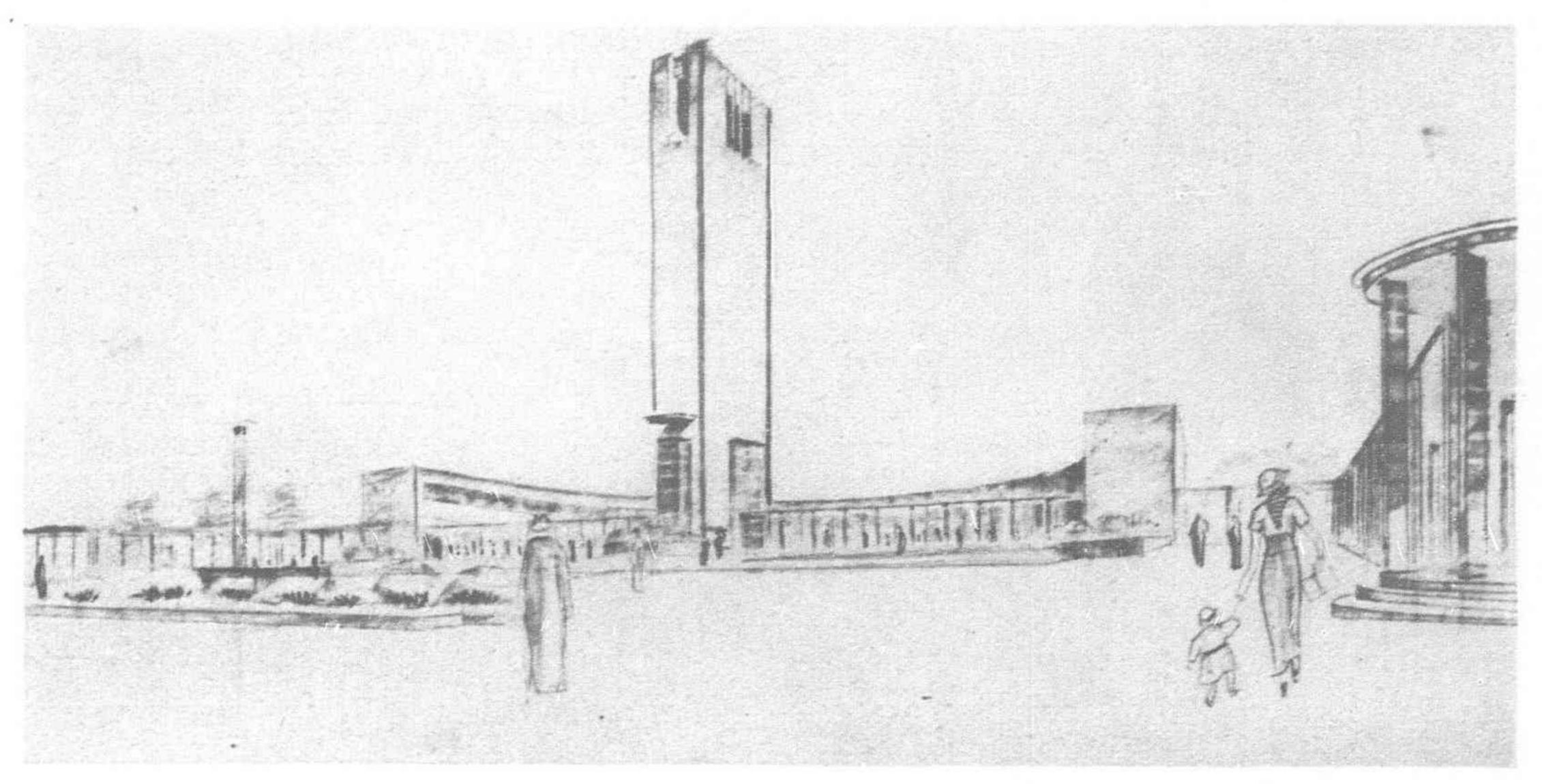
Rough sketch of theater or auditorium with observation tower, one of the features of the Exposition

endeavor to depict mankind's progress in the field of social life.

Descriptive of new developments in the field of art in Japan will be sculpture, paintings, photography and industrial art products which will be displayed in the Hall of Fine Arts, to be erected on 5,000 square meters of ground. Some of the finest works in Japan will be selected and placed on display. What trend Japanese art took in the past and what it may take in the future will be shown by exhibits in this hall.

Close by will be the Hall of Architecture, covering 3,300 square meters, which will present the development of that art in Japan from olden times, and with particular emphasis on the trend it is taking to-day. Actual designs in miniature, interior decoration and samples of building materials will be exhibited.

A number of buildings will be devoted to the presentation of the featured subject of the exposition, the industries of Japan. The Hall of Natural Resources, which will exhibit all materials in that category, will serve as an introduction for the fair-goers to the other industrial exhibits. Among smaller buildings of the exposition group, this hall will cover only 1,700 square meters.



Architect's sketch of Memorial Building

The Hall of Transportation, showing the development of rail-ways and other means of land transport; the Hall of Aviation and the Hall of Navigation will depict the newest advances in land, sea and air transportation. The Hall of Tourism will endeavor to show the progress made by this new industry of Japan and will also serve as an effective publicity institution for the entire country.

Hall of Agriculture

The Hall of Agriculture, 6,600 square meters, will present a graphic display of agricultural development in Japan, and some of the newest aspects of this industry, including modern scientific farming. The Hall of Forestry, covering 3,300 square meters, will contain a description of that industry with departments showing processes applied in allied fields such as paper manufacturing. Samples of various timber will be exhibited.

The Hall of Marine Industry, devoted to one of the major activities of the nation, may cover only 3,300 square meters, but its exhibits are expected to be an eye opener even to the Japanese, who are called the greatest fish consuming people on earth; for every conceivable product of ocean, lakes and rivers will be placed on display. On a plot of ground of the same size will be the Hall of Food, which will show, along with some of the purely Japanese features, the international aspects of the food industry in Japan.

Other industrial exhibits will be shown in the Hall of Mining, Hall of Engineering, Hall of Electricity, Hall of Industrial Science, Hall of Textiles and Hall of Manufacturing. The Hall of Electricity will particularly feature the advance made by Japan in radio engineering.

Space for Foreign Exhibits

Observing the rule that no international exposition can succeed without the active participation of foreign countries with exhibits that instructively show the advances being made in other sections of the world, the exposition has also reserved considerable space to build the Hall of Foreign Nations. Space, too, has been reserved for last minute exhibitors both in Japan and abroad.

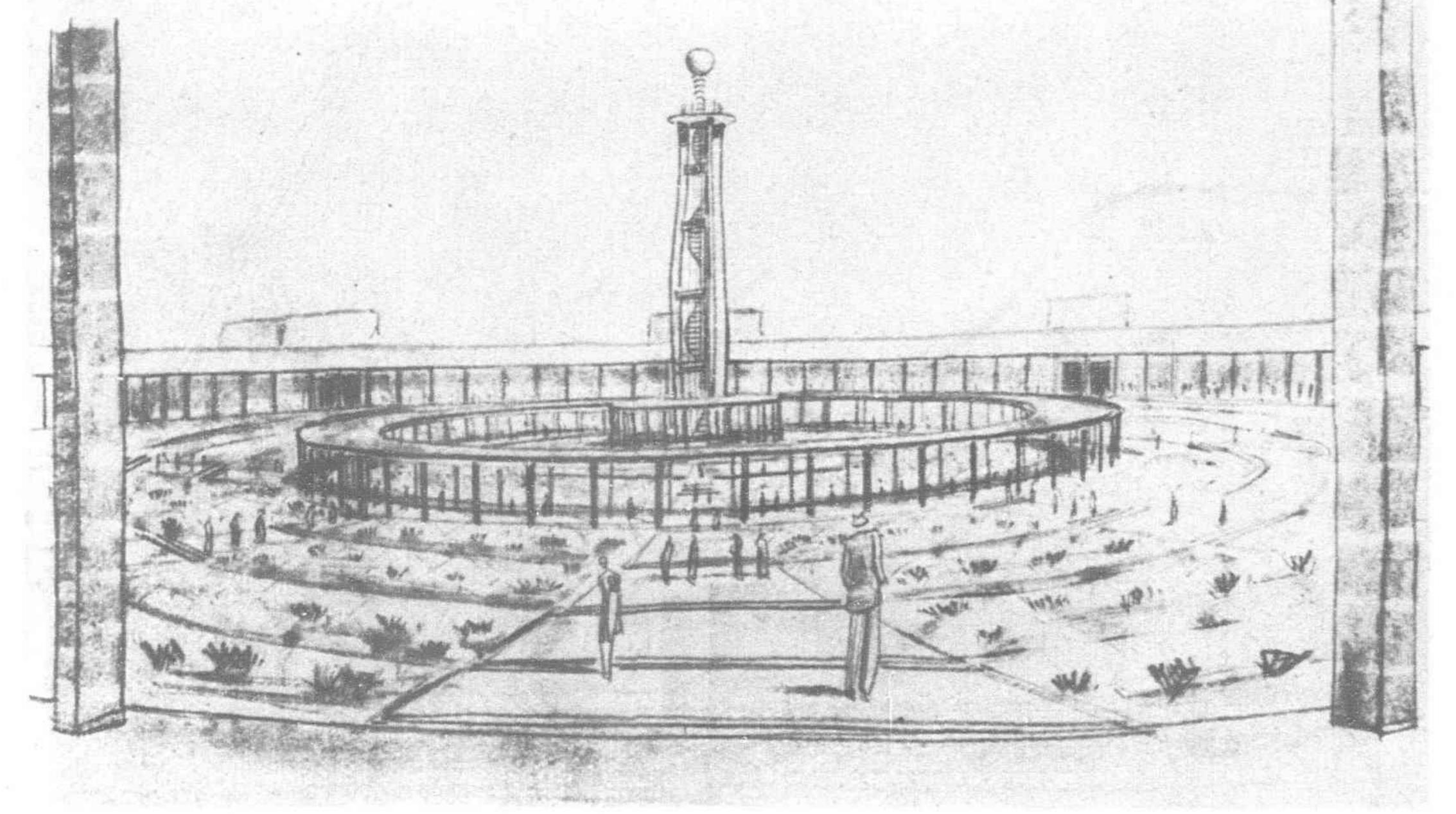
The fair grounds, of which the building space forms only a small portion, will have motion picture houses, an amphitheater for dramatic and musical performances, playgrounds, spacious promenades, open air arcades, restaurants and shops. A building will be erected to house the administration and information offices of the exposition, and a central post office and police and fire stations are also to be established.

Although the plan is still tentative, two huge steel towers may be erected and cable cars run between them. Brilliant illumination, which will make the Ginza signs pale by comparison, will brighten up the fair grounds by night. The bodies of water surrounding the various units of the fair ground will bear motorboats and launches and will reflect the bright lights by night. Something on the order of a Coney Island will be temporarily erected in one

corner of the grounds as a playground for both adults and children.

Although Japan's projected exposition is in commemoration of its greatest historic event, its foundation as a nation, and of 2,600 years of development under one ruling house, it is not without precedent in foreign countries. The centennial exposition in Philadelphia in 1876, commemorating American independence, and the Columbian Exposition in Chicago in 1893, commemorating the fourth centennial of Columbus' discovery of America, are to Americans of similar significance. In the forthcoming exposition the organizers believe and hope that the greatest source of foreign co-operation will be the United States, because that country was largely responsible for inducing Japan to become an active member of the family of nations after more than two centuries of isolation, and thereby pointed the Empire on the road to modern progress.

(Continued on page 40)



Architect's drawing of the Industrial Center

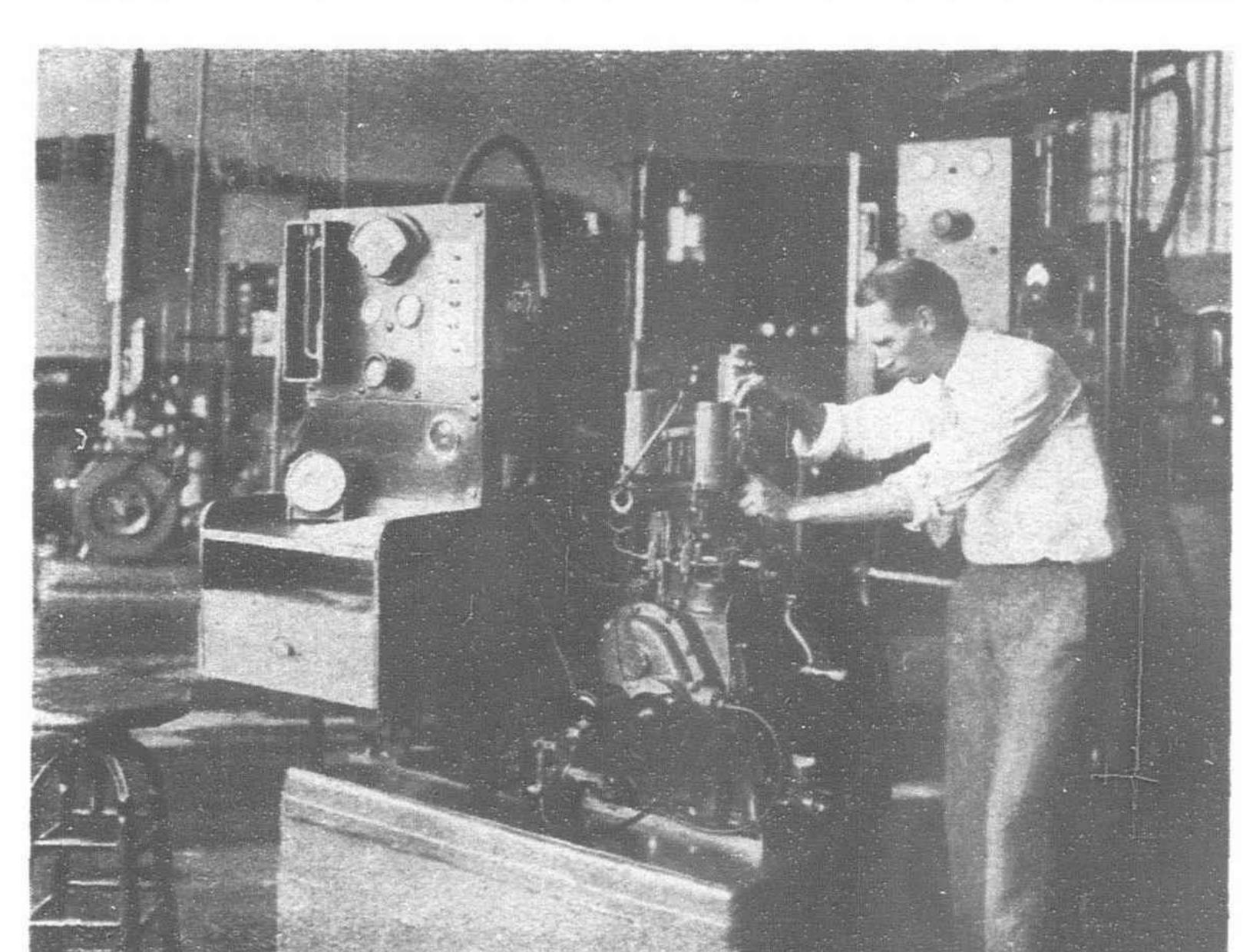
The Waukesha Motor Company

business on April 6, 1906, had about 5,000 square feet of floor space, and now the company is occupying and using nearly a half million square feet. The outstanding fact about the Company, however, is not in figures like these, impressive though they are—it is in a more significant thing, the personnel. H. L. Horning, President of the Company, is its founder. As a young draftsman in a local structural steel plant, his attention was first drawn to gasoline engines when the owner of the business

purchased one with which to power a boat. The one he bought was of a standard make, but like most engines of those days, when it was received, it was out of adjustment, was hard to start, and was hard to keep going. Horning, the draftsman, and another man, the master mechanic of the shop, had an opportunity to study the engine when its owner had them adjust it and tune it up. As a result of their experience with this early model, they decided to try and design one, and felt they could build a better engine, or at least one that would start more easily.

An accompanying photograph is a picture of the first engine after it was completed. While it may not have the refined appearance of modern engines, it had one outstanding feature that has been the requirement of all subsequent

Waukesha Engines—it really did start easily. The early story of the Company is like a good many others. The first engine that cost about \$12,000 to build and took the better part of a year to complete was sold for \$500 to a boat owner on one of the nearby lakes. It made a good reputation, and other orders followed from other boat owners on nearby lakes, and the early business of the Company was almost entirely in the marine engine field. Hankscraft who built power boats on the lakes at Madison, and a boat builder on Lake Geneva were among the early clients.



The Fuel Testing Laboratory of The Waukesha Motor Company showing the First Truck Testing Engine for Gasoline Fuels, the forerunner of the Standard Instrument for Octane Rating of Gasoline

When tractors became the order of the day after the World War began, the Company turned its attention to tractor manufacturers, and outside of the International Harvester and one or two others, practically all of the big tractor builders were using Waukesha Engines. At one tractor demonstration in Fremont there were the Gray, Nilson, Parrett, Bates, Hume, Heider, Chase, Petro-O-Haul, Dakota, Joliet, Nevada, and Lawter tractors, all equipped with Waukesha Engines.

All the time that tractors held the center of the stage, the

sterling was the most prominent of the early users although a number of smaller manufacturers catering to the local markets were regular customers.

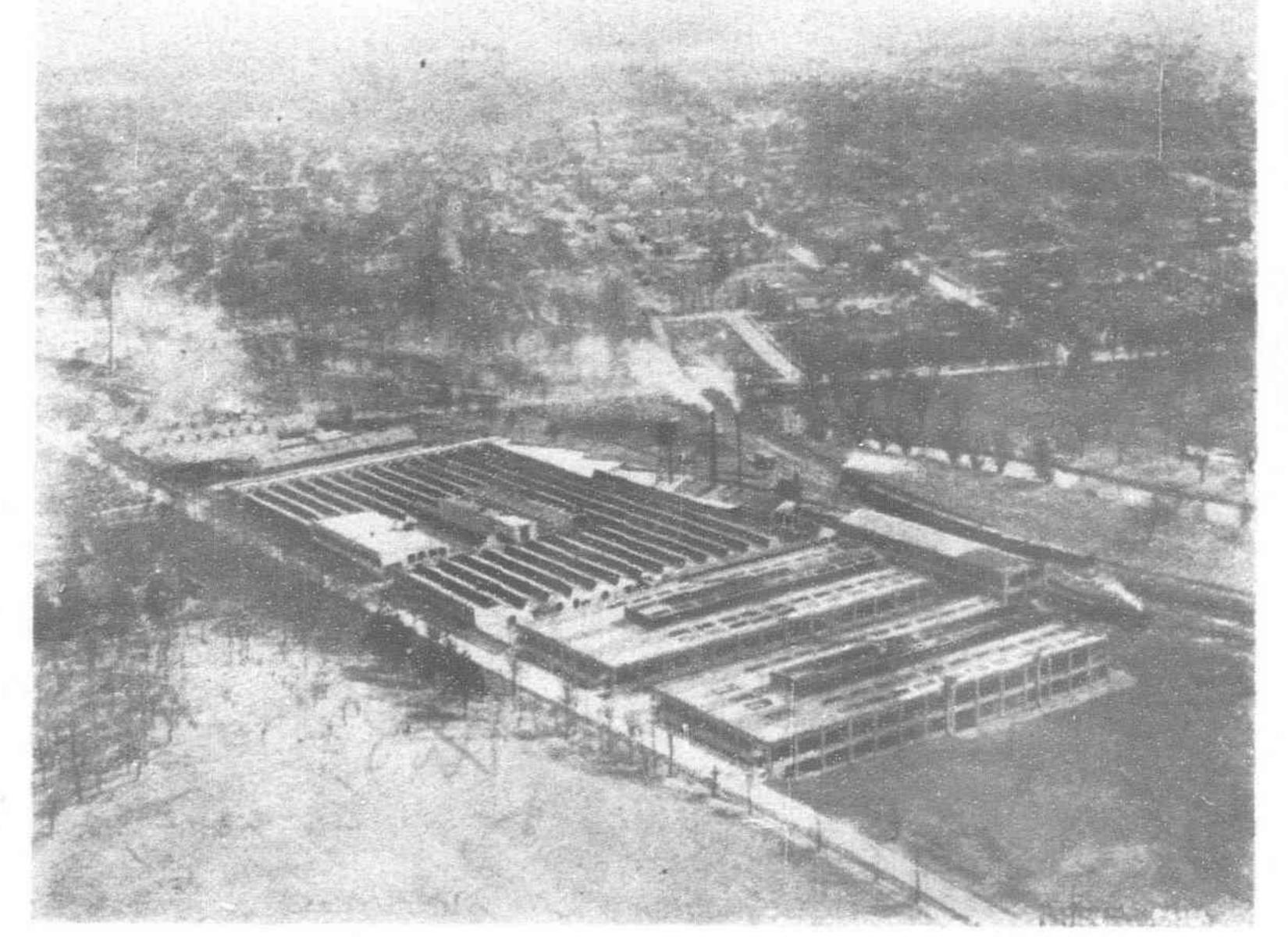
Then came the entry of the United States into the World War, and the establishment of the big industrial organization which was recruited to prosecute the War. In this connection. Mr. Horning was appointed on the War Industries Board, and later when the standardized truck program was started, he was made chairman of engine design, and our Chief Engineer, Mr. Fisher, and he spent most of that winter in Washington with other leaders in the cooperative work of developing the Class B Military Truck.

Waukesha had pioneered the detachable cylinder head, the built-in governor, and several other details of the Class B

engine that were adopted almost without change from our standard designs. Of course, the Motor Company immediately started on a big production program for these Class B engines, and 90 per cent of their efforts during the remainder of the War Board's service were devoted to that work.

After the War, the truck market expanded, and with the increase in business experienced by Ingersoll-Rand on their gasoline driven portable compressors, the Company was definitely embarked in a big way in the industrial and power field. Later, about 1923,





1906

1935

The Story of An American Enterprise-The Waukesha Motor Company

the Company decided to promote business in the oil fields.

The Study of Fuels

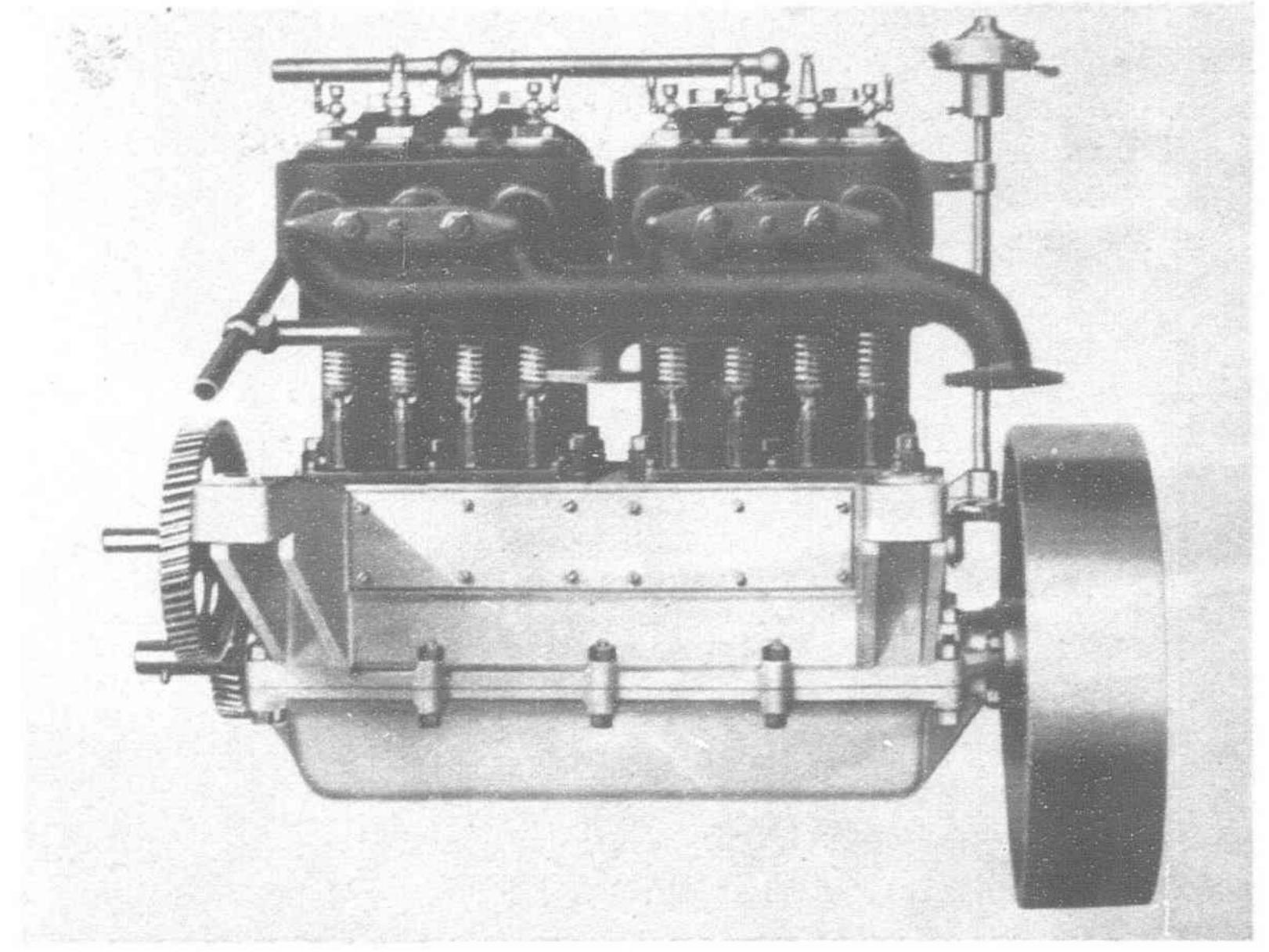
Shortly before this, as a result of original research done in this plant, Mr. Horning and his staff attracted considerable attention in the S.A.E. and engineering circles. Fuels at this time had become so bad that engine builders as well as engine users were in a quandary as to how to continue using the cracked gasolines without sacrificing efficiency. By the use of glass intake manifolds in our laboratory—the first time this device had been considered —the action of the fuel stream coming from the carburetor was studied. A year or so later, the theory of detonation was advanced, and its causes were

suggested. As a result of these discoveries and researches, the Company definitely established a reputation for leadership in the scientific aspects of engine design that is still unquestioned and unequalled by any engine builder in the U.S. The Co-operative Fuel Research, the outgrowth of early endeavors in studying fuels, is well known and most of its basic principles were first laid down by the company's research staff. To-day, the Company are the builders of the standard testing unit for gasoline fuels, the ASTM-CFR octane rating engine. This work is still going on, and has received world-wide recognition.

As President of the Society of Automotive Engineers, Inc., Mr. Horning devoted the major portion of his term to strengthening the research activities of the organization. Much of his own company's facilities were increased at the same time, and many times have been used by research committees of the Society for co-operative development work.

About 1926, the Company started building six-cylinder engines with a patented girder crankcase such as is used on the SR engine now. The Ricardo Head, of course, was the outgrowth of general research, and contributed more than anything else to the swing back to ell head engines which, up to the time of its introduction, was on the way out in favor of overhead valves.

In 1928 and 1929, the company's production as well as others' reached its peak with over a million horse-power of engines turned



The first Waukesha Engine built in 1906, a Four-Cylinder Tractor Type, 40 h.p.

thousand engines a year.

Extensive Research

out. Two or three customers at

that time used more than twenty

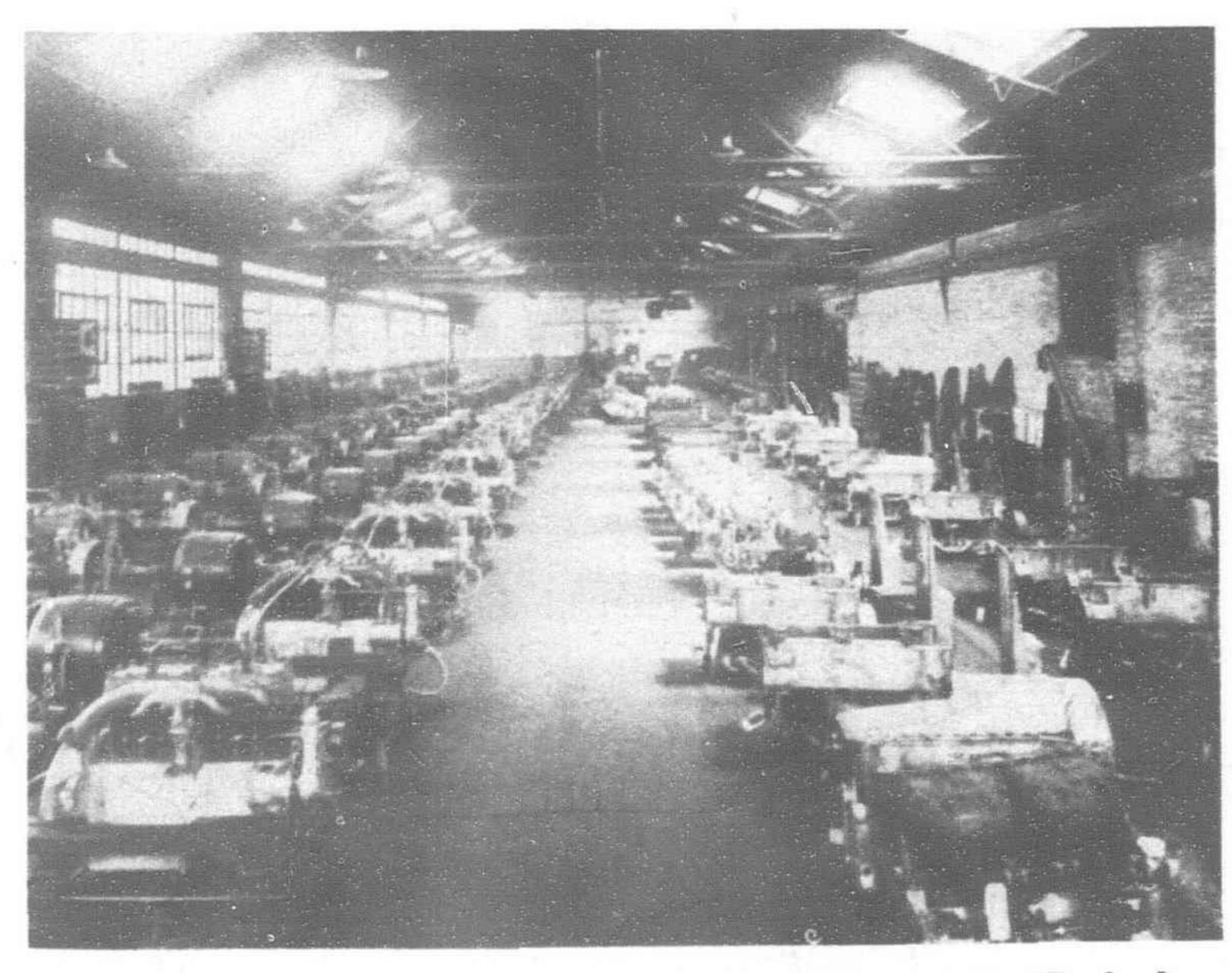
Ever since 1926, research has been conducted on the use of heavy fuels for automotive service. A number of Diesel engine designs have been tried, and a number of Diesel fuel attachments have been tested. In 1930, attention was attracted the Swedish Hesselman patents, and the Ingersoll-Rand Company secured a license for manufacture in this country. It was then that active work on the American-built Hesselman was started. This engine has proved uncommonly successful and very popular as a result of the experience which Ingersoll-Rand have had in driving

portable air compressors equipped with them. These compressors have been shipped all over the world, and they have records of competitive performances in Italy, Spain, Switzerland, and Mexico where they were placed in competition with some of the best European Diesel engines on the same job, and actually showed a greater capacity of air with less fuel consumption than the full Diesels.

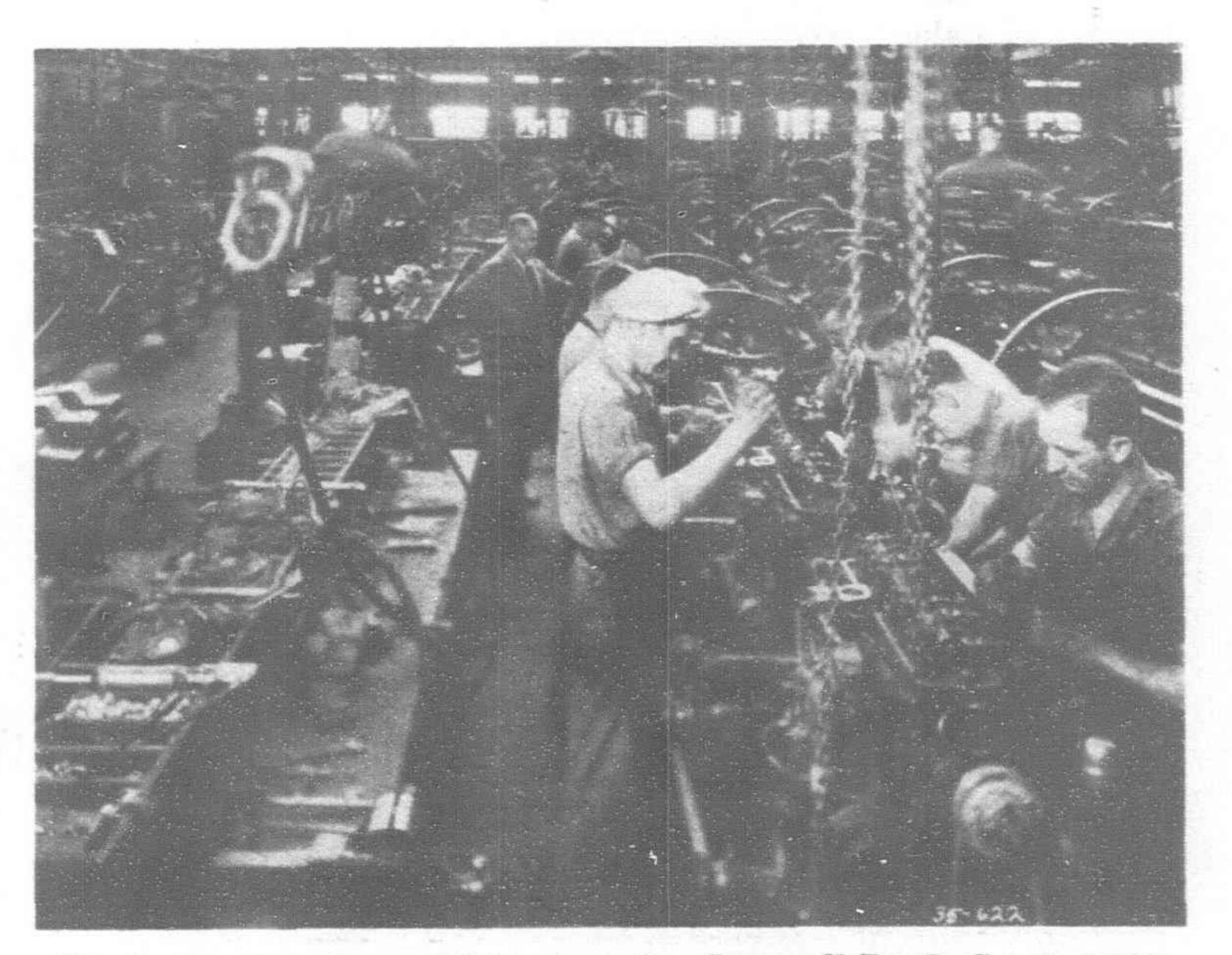
While this development was being pursued, the Diesel field was canvassed, and after experience with various designs—the Company built an ell head Diesel for industrial service three years ago—and arranged for a license under Ricardo's patents for the Comet type. The Company now has three sizes of Comet Diesel engines for trucks.

During this entire period from the founding of the Company to the present moment, the personnel of the management has remained the same—Mr. Horning, Mr. Estberg, Mr. Frame and Mr. Blair were all in the original venture. Mr. Horning, its president, its founder, succeeded Mr. Haertel upon is death as President, Mr. E. R. Estberg has succeeded Mr. S. A. Perkins as Treasurer, upon the latter's death. Mr. Blair, one of the directors, was of this original group of five men who backed Mr. Horning's enterprise in its earliest days.

In summing up, this Company has an enviable record for (1) a professional standing equalled by no other engine builder;



Testing Army Truck Engines during the World War at the Waukesha Motor Plant. Every engine was tested on Electric Dynamometers. Waukesha engineers played a major part in designing and developing the famous Liberty Truck Motor



Waukesha Hesselman Oil Engines for Ingersoll-Rand Compressors are assembled on these Continuous Rail Carriers. As many as a hundred a day can be built of one size on these assembly lines.

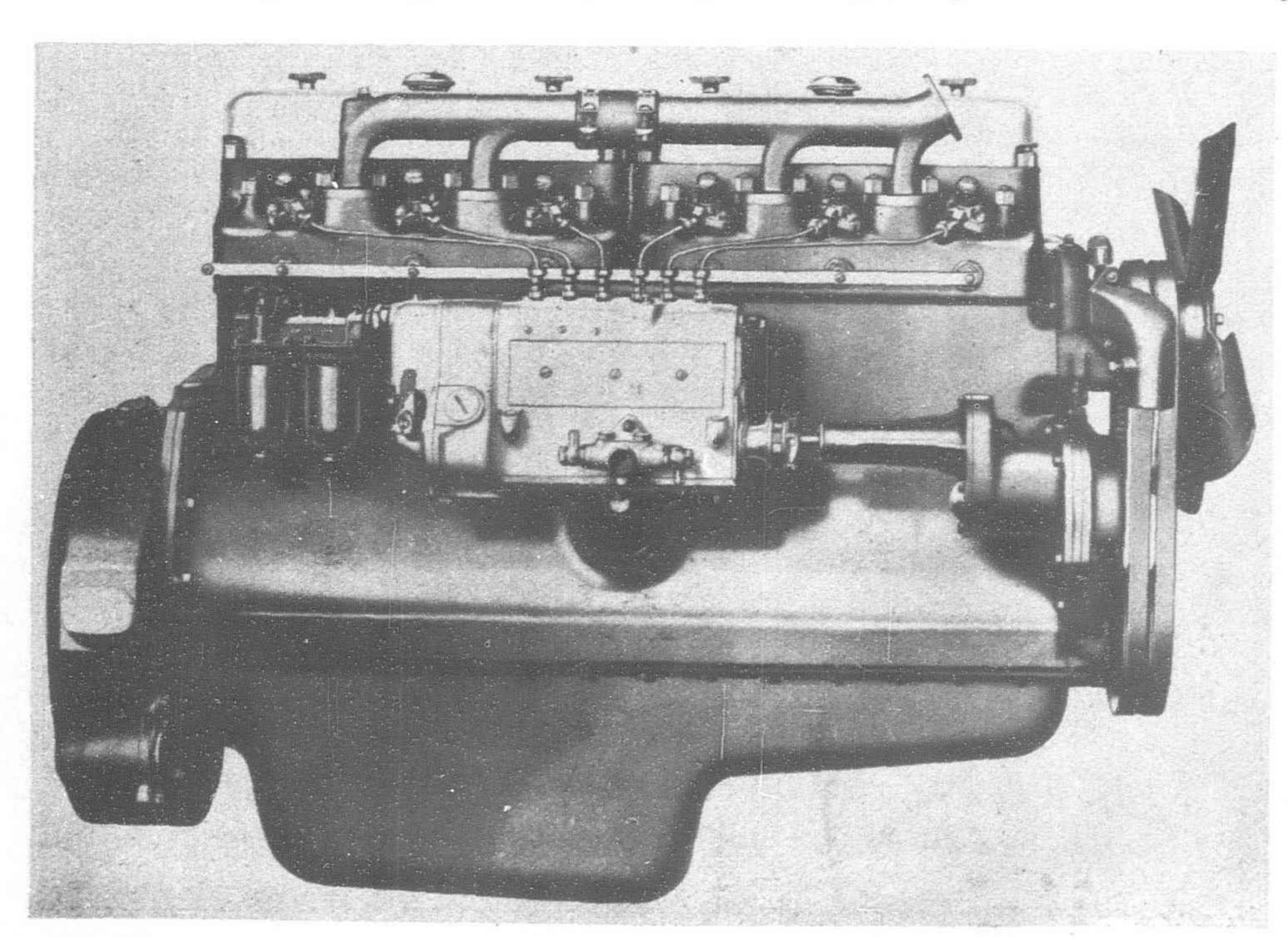
(2) sound research and aggressive development of its product; and (3) the kind of a product that all these factors are bound to produce. Besides this, constant efforts to build good-will by fair dealing and honest merchandise have enabled the Company to grow and progress even in the face of adverse business conditions.

The Silver Comet Six

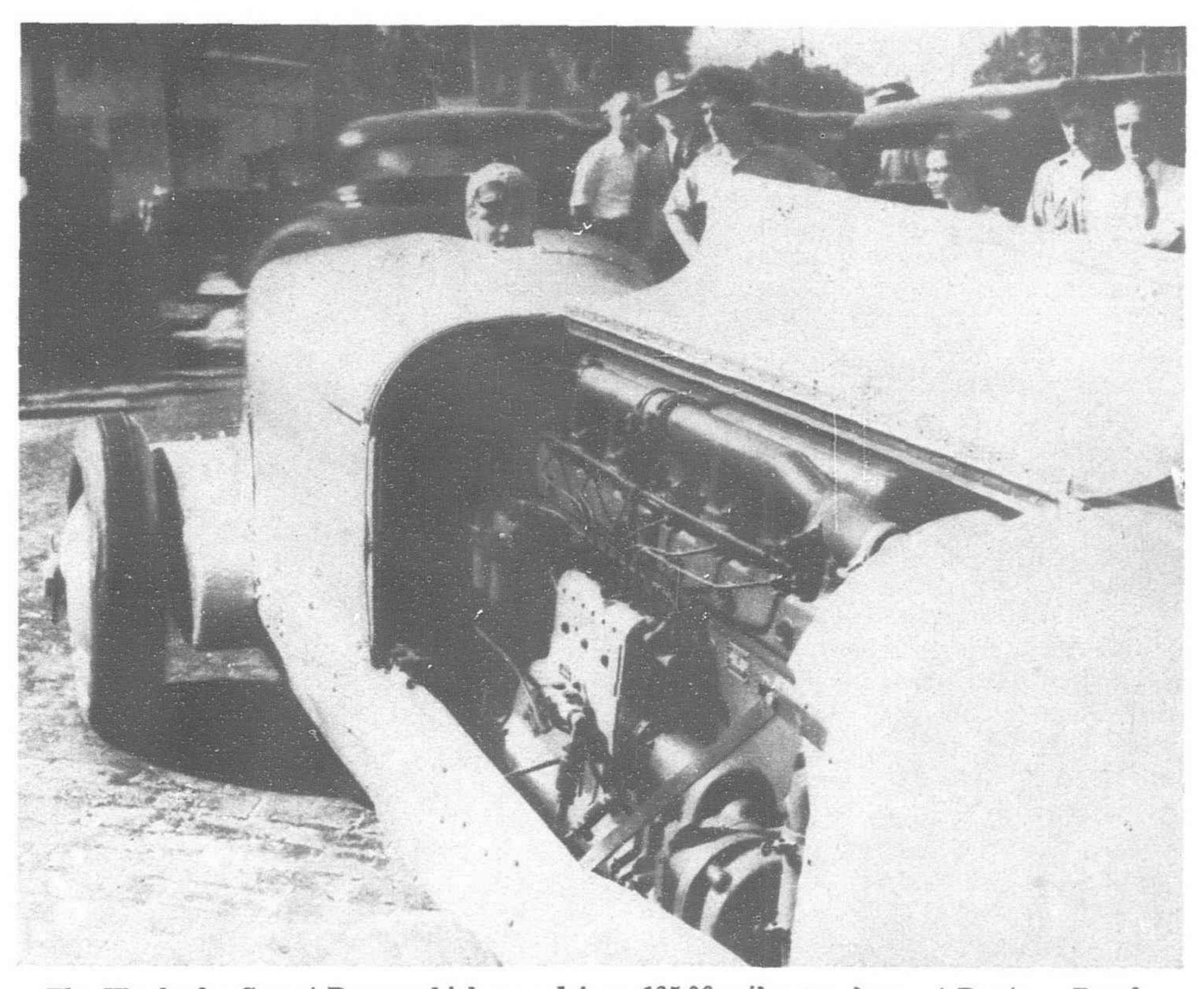
The Silver Comet Sixes are the standard type of compression ignition engine used by the London General Omnibus and other leading European operators. In America, they are built by the Waukesha Motor Company for heavy duty, automotive service where long, hard, bus or truck schedules must be maintained with regularity and with utmost economy. The 125 h.p. engine is especially suited to fast intercity and suburban buses of 30-40 passenger capacity, and, depending on the nature of the service, for heavy haulage tractors and trucks of 18-23 tons gross load rating. The larger size develops 140 h.p., and is recommended for trans-continental motor coach and freight lines requiring up to 28 ton gross load capacity; as well as for modern railcars and moderate, to high speed industrial machinery.

"Compression Ignition" is the modern name for oil engines operating on the Diesel cycle. The Silver Comet Engines belong to that class known as the airless injection, four-cycle, compression ignition type. The fuel is burned by forcing it into the air which has been taken in on the intake stroke, and compressed. The air is heated by compression to a temperature well above the ignition temperature of the fuel so

that automotic ignition occurs without separate sparking devices. The Comet type of combustion chamber is the outstanding feature of these engines, and is directly responsible for the flexibility, clean burning, and smoothness of operation. This type of combustion chamber was developed at the Ricardo Laboratory in England, and follows many of the basic principles which Ricardo's research on large engines disclosed. Combustion is completed in a highly compact, spherical chamber into which nearly all the intake air charge is compressed. By its special design, a great



The Waukesha Comet Diesel for Trucks, Buses and Transport Duty built in two sizes, each with Six Cylinders. The smaller 434" x 51/2" develops 125 h.p. at same speed. These engines are Full Compression Ignition Engines and burn the modern "High Speed Diesel Fuels."



The Waukesha Comet Racer which was driven 125.06 miles per hour at Daytona Beach, Florida, February 15, 1935, the American Race Driver Dave Evans at the Wheel. This car broke the World's Record and still holds it for Stock Engined Racers on the Straightaway. The car has no special racing devices such as Super-Chargers; Standard Shell Diesel Fuel was used. The engine was a Waukesha Silver Comet Truck Engine, 6-cylinder, with Bore and Stroke, 5" x 5\frac{1}{2}". It developed upwards of 180 h.p. at 3,200 r.p m.

portion of the heat of combustion is held in the walls of the Comet chamber, to be imparted to each fresh charge of air, and added to the normal heat of compression. This effectively reduces the ignition lag by starting the combustion immediately after the beginning of fuel injection, and burning the charge smoothly and progressively. This results in a marked increase in the operator's comfort, and reduction in the upkeep of all of the mechanism driven by the engine. Conventional combustion chambers cannot do this as they permit a larger volume of fuel to enter without

burning, and then to ignite suddenly with excessive violence and roughness. In addition to these features, the Comet combustion chamber will handle fuels with greater cleanliness as to odor, smoke, and carbon, which gives the Comet Engines longer life, and less wear than any of the usual types not so designed.

the usual types not so designed.

The fuel pump is a single, self-contained unit with individual cylinders and plungers for each engine cylinder, and a metering mechanism to control the quantity of fuel injected at each stroke. Engine speeds are thus varied by the fuel pump itself in conjunction with the governor and throttle. The centrifugal governor is entirely enclosed, lubricated by the fuel pump oiling system, and driven through the pump by the engine timing gears. It limits the maximum engine speed without interference with the accelerator or manual control at all intermediate speeds. High pressure steel tubing leads the fuel from each cylinder of the pump to the individual injectors in each combustion chamber. The pintle type injectors have but one orifice, are spring loaded, and easily accessible for inspection and cleaning. Comet Diesels burn clean, refined fuel oils free from grit, low in sulphur, gum, acid and carbon, and having a viscosity of 35-80 seconds, Saybolt, at 100 degrees F.

Silver Comet Engines have seven bearing 35-in. crankshafts, wet sleeve cylinders, five ring aluminum alloy pistons, full floating piston pins

with positive pressure lubrication to all moving parts. They can be started cold by electric starters furnished with the engines and, are remarkably clean cut and free from complications. All standard accessories commonly used in automotive work can be applied.

Besides the two Silver Comet Engines described, a smaller six-cylinder of 100 h.p. capacity is also available. Waukesha gas, gasoline, and Hesselman spark ignition, solid injection oil engines are made in sizes from 10 h.p. to over 300 h.p.

A Diesel Engined Racer

On February 15, 1935, Dave Evans, American racing driver, who has hung up many track records in the past, and gained international fame as the first American to try for the Diesel powered speed laurels, drove a stock-engined, Diesel powered car at the record speed of 125.06 miles per hour on the beach at Daytona, Florida.

The engine itself is a standard stock truck engine built by the Waukesha Motor Company at their plant in Waukesha, Wisconsin, and is the same engine as that used in the big six-wheeled Sterling truck which conveyed Evans' car to Daytona Beach. It is a six-cylinder 5-in. by 5½-in. Comet type Diesel engine, developing 140-150 h.p., with regulation United-American Bosch fuel injection system, Leece-Neville electric starter, aluminum pistons, sevenbearing crankshaft, and the patented high velocity Comet combustion chamber. The fuel used is a straw-colored oil of the same variety

commonly used in domestic oil burners, and costing less than half the cost of gasoline.

In more detail, the engine which is shown in the accompanying illustration is built upon a cast iron frame which supports the crankshaft and the sleeve type cylinders. The cylinders themselves are of a molychrome iron finished to a high polish by honing. Each sleeve is entirely surrounded by water and backed by two rubber rings at the bottom. At the top of the cylinder, a large flange is turned which pilots into the top diaphragm of the cylinder frame casting. The copper gasket which seals the head also seals the water space around the cylinder sleeve at the top. There are two cylinder heads used, each one covering three cylinders, and interchangeable with each other for mounting either at the front

or the rear. In this cylinder head is the overhead valve mechanism which is enclosed by cast aluminum covers sealed with cork gaskets. The entire valve mechanism operates in a mist of oil which is fed under pressure to the rocker arm shaft, and thence to each rocker promptly in any moderate temperatures without them. arm and valve stem. The valves are made of chrome nickel on the intake, and chrome silicon for the exhaust. Each of the valve seats are renewable inserts of special Waukesha alloy. The intake valve is 2-in. in diameter, and the exhaust valve 1\frac{1}{2}-in., the same as in the standard truck or bus engine. Double valve springs are used on each valve. In the cylinder head is also the porting for both the intake and the exhaust manifolds. The intake is cast in two sections and located above the exhaust which is a single casting with a central outlet. A liberal supply of water surrounds each valve seat, and by special baffles and porting, the circulation in these centers is controlled to avoid the deposit of sludge or lime, and to prevent excessive temperatures at these sensitive points.

The outstanding feature of the Comet Engine is the combustion chamber, also located in the cylinder head, and made of a single alloy casting with the chamber itself a sphere connected to the cylinder by a tangential venturi-shaped outlet. The combustion chamber insert is in direct metal to metal contact with the head and frame of the engine only at the base flange, all the other walls being insulated by an air space so that the combustion chamber

heats promptly and remains constantly at ignition temperatures as soon as the engine is started. This fact combined with the high turbulence of the air compressed into it assures prompt and clean ignition at all operating speeds.

Another feature attributed to the Comet combustion chamber is the automatic regulation of the speed of combustion which occurs as a result of the increase in the rate of swirl of the turbulent air as the speed of the engine itself increases. The fuel is injected directly into the combustion chamber through a pintle type injector, and the entire charge is burned in this spherical space, thus differentiating this type of construction from the usual precombustion chamber in which only a small portion of the charge is burned, and the major portion ignites in the clearance space above the piston.

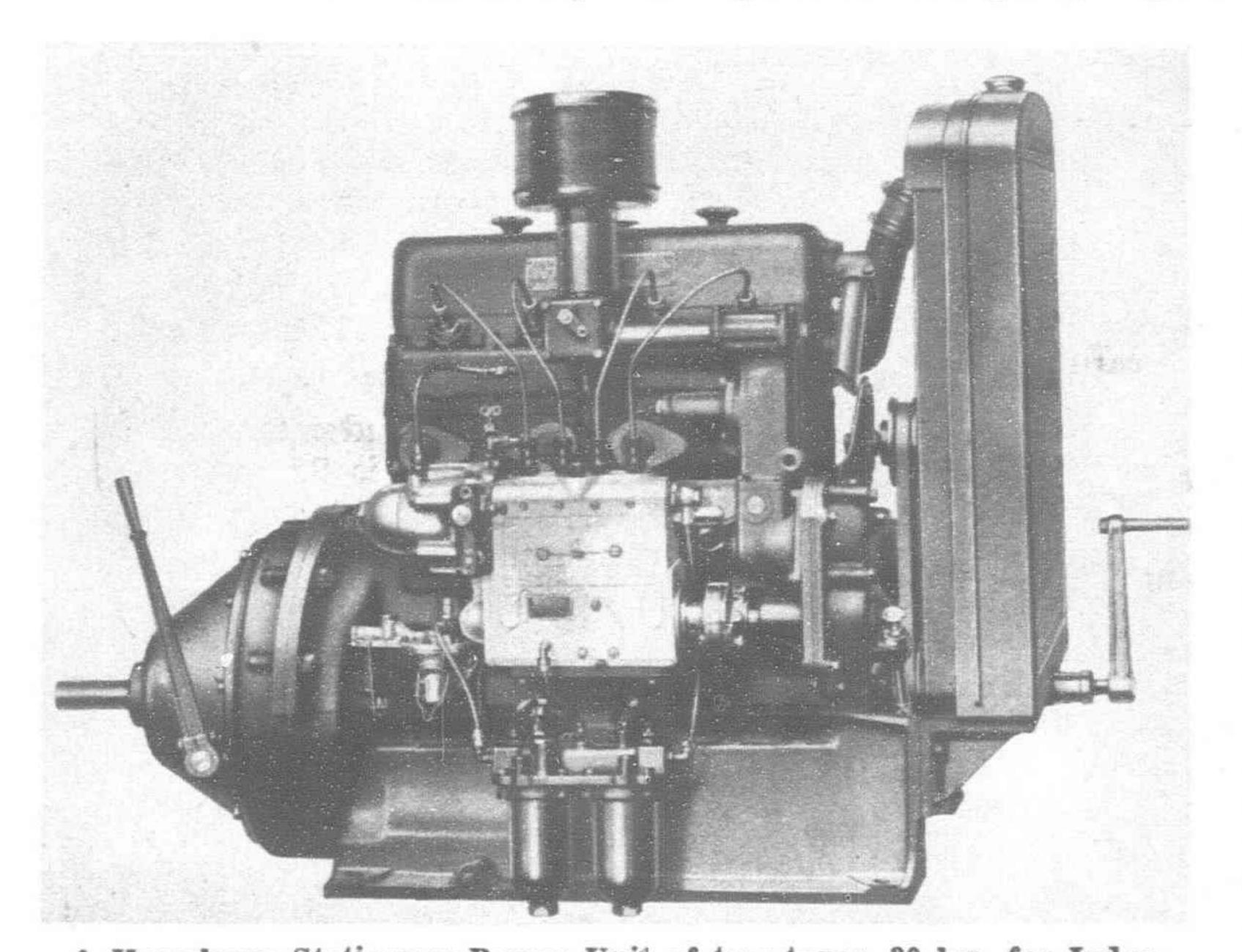
Another advantage of the Comet construction is the relief from high localized temperatures directly over the piston and cylinder heads so that distortion and damage is avoided and the cylinder itself as well as the piston operates at temperatures far below those common in conventional types of compression ignition engines. The resulting freedom from lubrication troubles, sticking of piston rings and piston seizures is characteristic of Comet type Diesel engines.

The fuel system is a standard United American Bosch product, but owing to the automatic control of the flame speed in relation to engine speed due to the Comet combustion chamber, a fixed timing for the fuel pump is possible so that automatic or manual

adjustment of the fuel pump timing is unnecessary. This makes for a greatly simplified fuel pump.

In Evans' racing car, the fuel supply system is the only portion of the standard engine which has in anywise been altered and in this case the change was merely to increase the capacity of the injection and primary supply pumps so as to avoid any likelihood of a fuel shortage at sustained high speeds. Nozzles are of the standard Bosch spring loaded pintle type which provide a simple single orifice rather than a multiplicity of very fine small spray holes. The reliability of this construction, of course, is apparent, but its use necessitates a high turbulence combustion chamber such as the Comet type. In the standard engine, ease of starting is pro-

moted by the use of glow plugs connected in the starting motor circuit which add a small amount of heat to the initial compression. These have been omitted on Evans car because they are not essential, and the engine starts

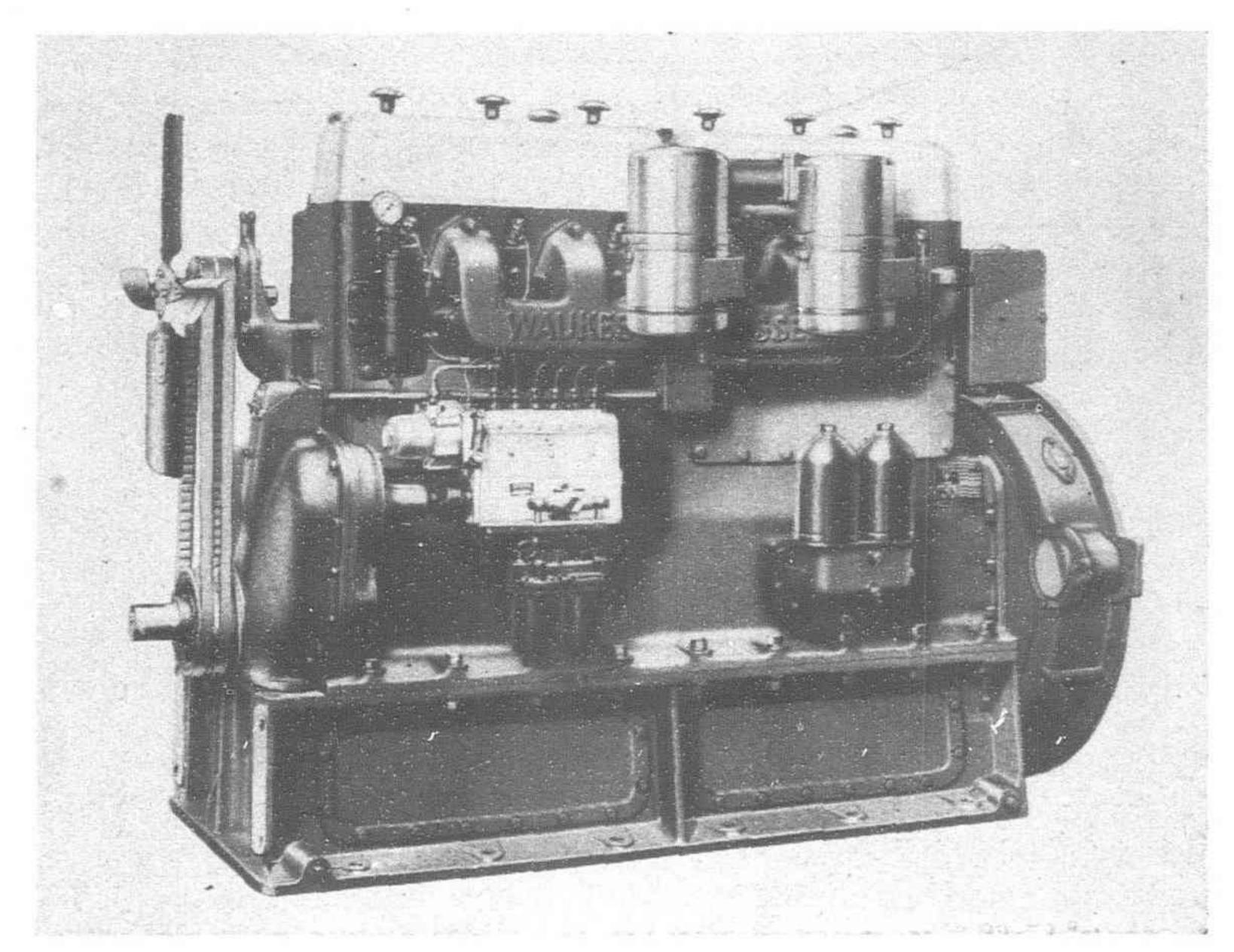


A Hesselman Stationary Power Unit of two types, 30 h.p. for Industrial Machinery of all kinds where a self-contained housing is not required.

Other Specifications

Pistons are of the Zollner trunk type without slots or splits and made of aluminum. A full floating piston pin is used which is caried directly in the large aluminum bearing bosses of the piston, and runs in a copper-lead alloy bushing in the upper end of the connecting rod. Five Perfect Circle rings are used to assure adequate compression sealing and oil control. Connecting rods in this racer are not special—they are made of heat treated SAE 3140 steel with the large end ground to fit steel backed thin wall bearings lined with lead-bronze alloy. Each rod is carefully balanced and mates with every other rod. The cap on the large end is held by four 75-in. nickel steel bolts.

The crankshaft is supported in seven bearings 35-in. in diameter, and is made of chrome molybdenum heat treated steel of great hardness. Each of the bearings is of the precision type steel backed, thin wall bushing with high load-bronze bearing surface. All precision type bearings throughout the engine are made by the Cleveland Graphite Bronze Company. The crankshaft forging

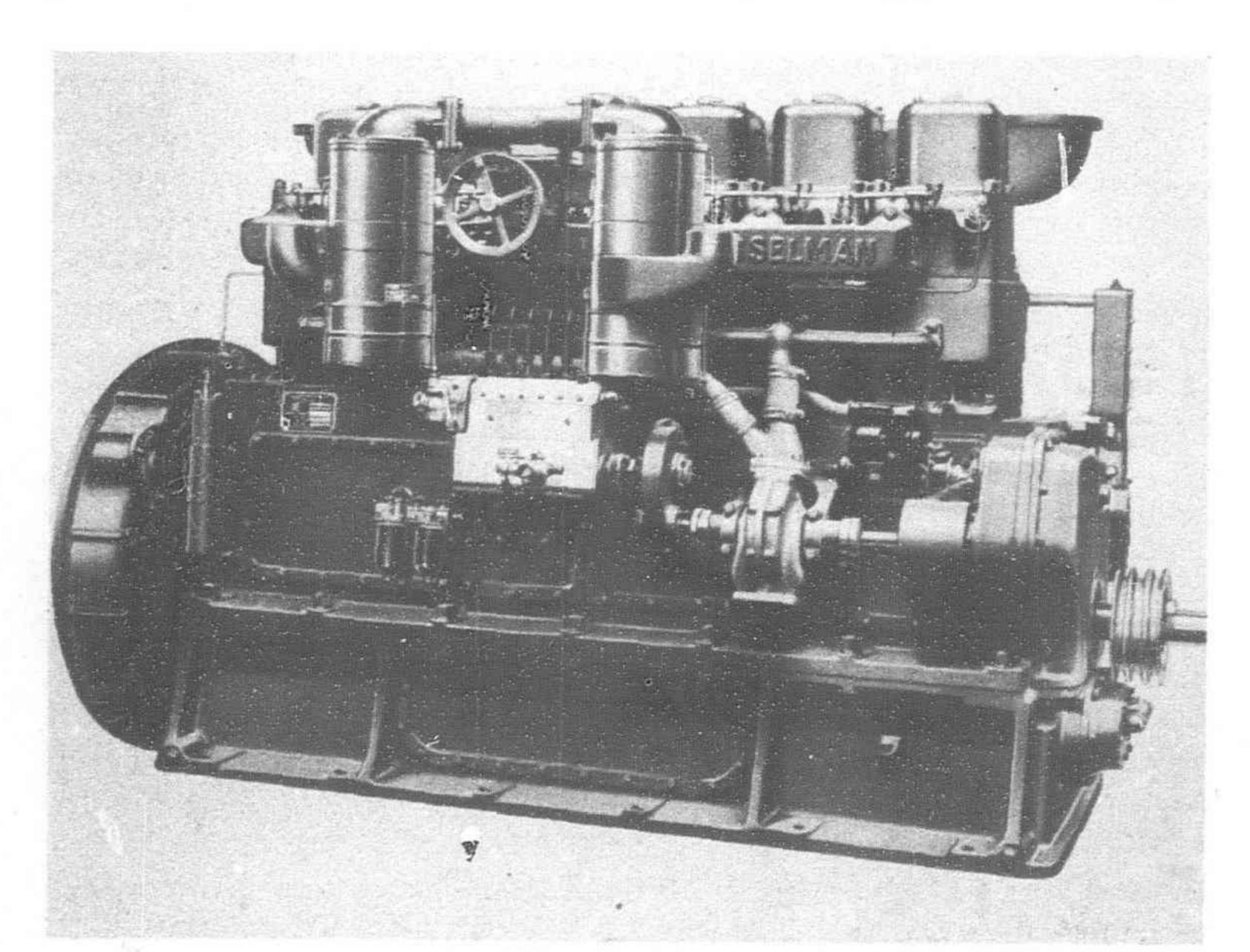


Tre 120-175 h.p. Hesselman series engines for Stationary or Industrial Duty. There are three sizes all Six-Cylinder, Ranging from $6" \times 7"$, $6\frac{1}{2}" \times 7"$ to the largest, 175 h.p., $7" \times 7"$, all at speeds 900-1,000 r.p.m.

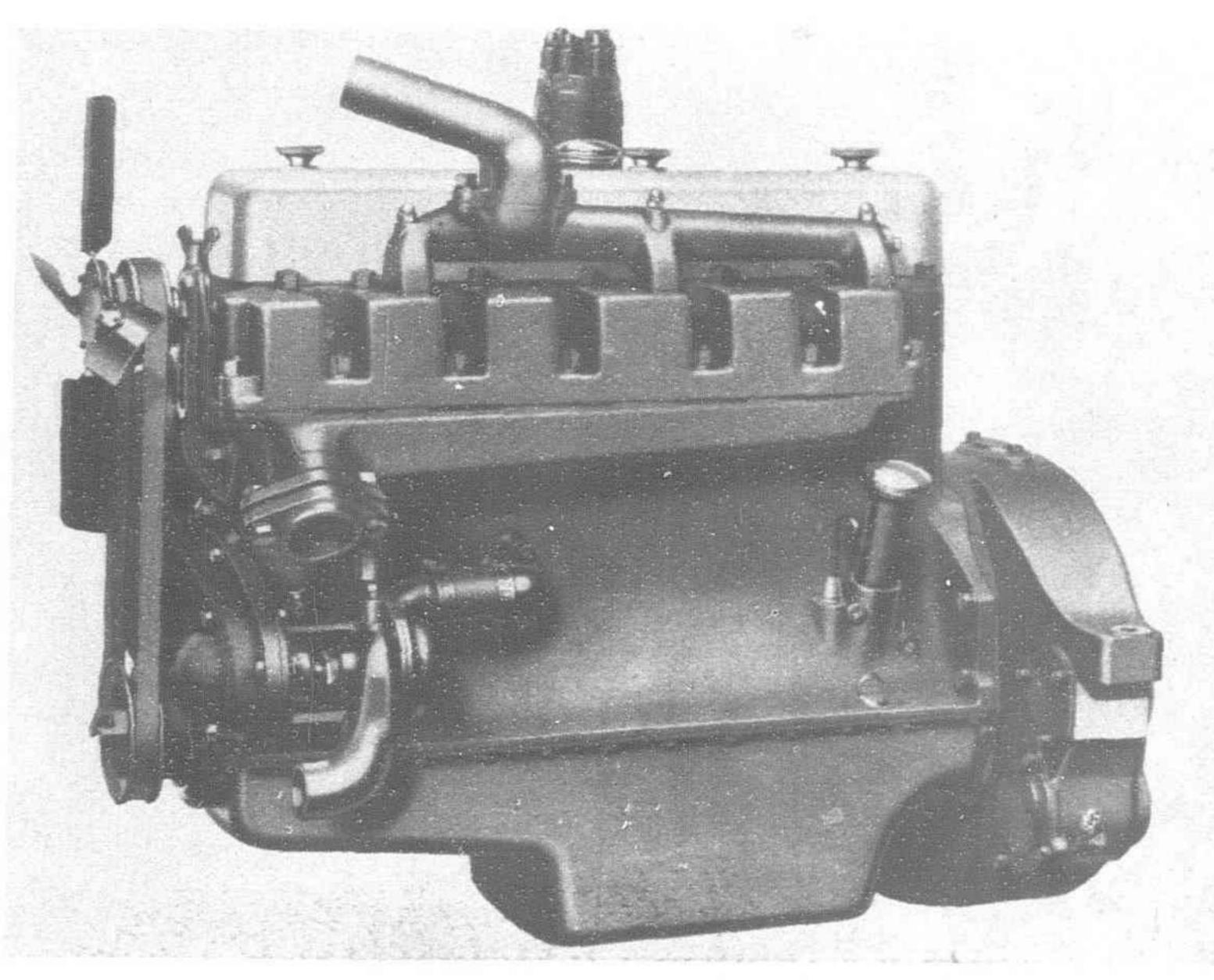
was made by the Ohio Crankshaft Co., machines, balanced, and finished in the Waukesha shops. The cooling system is by centrifugal pump, belt driven by twin belts from the crankshaft. In Evans' racer, the fan itself is omitted as the high speed of the vehicle and the designers calculations show that a sufficient volume of air will pass through the radiator to obviate the necessity of a fan. A patented automatic take-up for the pump packing is used which minimizes the danger of leakage at the pump gland.

On Evans' racer, starting is accomplished by the standard Leece-Neville 24-volt starting motor with a heavy duty Bendix engaging a nickel steel ring gear shrunk and dowelled onto the cast iron flywheel. On the car itself no batteries are carried, and the actual starting is by auxiliary battery stationed at either end of the course, and manually plugged in for this duty. With a fully charged 24-volt battery, the starting motor has cranking ability that will start this engine on the third or fourth revolution without glow plugs.

The oiling system follows standard Wuakesha practice. The base pan of the engine forms the supply reservoir, and the pump itself is submerged and protected by the usual Oil Level Equalizer which insures a prompt response of the oiling system at all temperatures and even at low levels. Every moving part of the engine



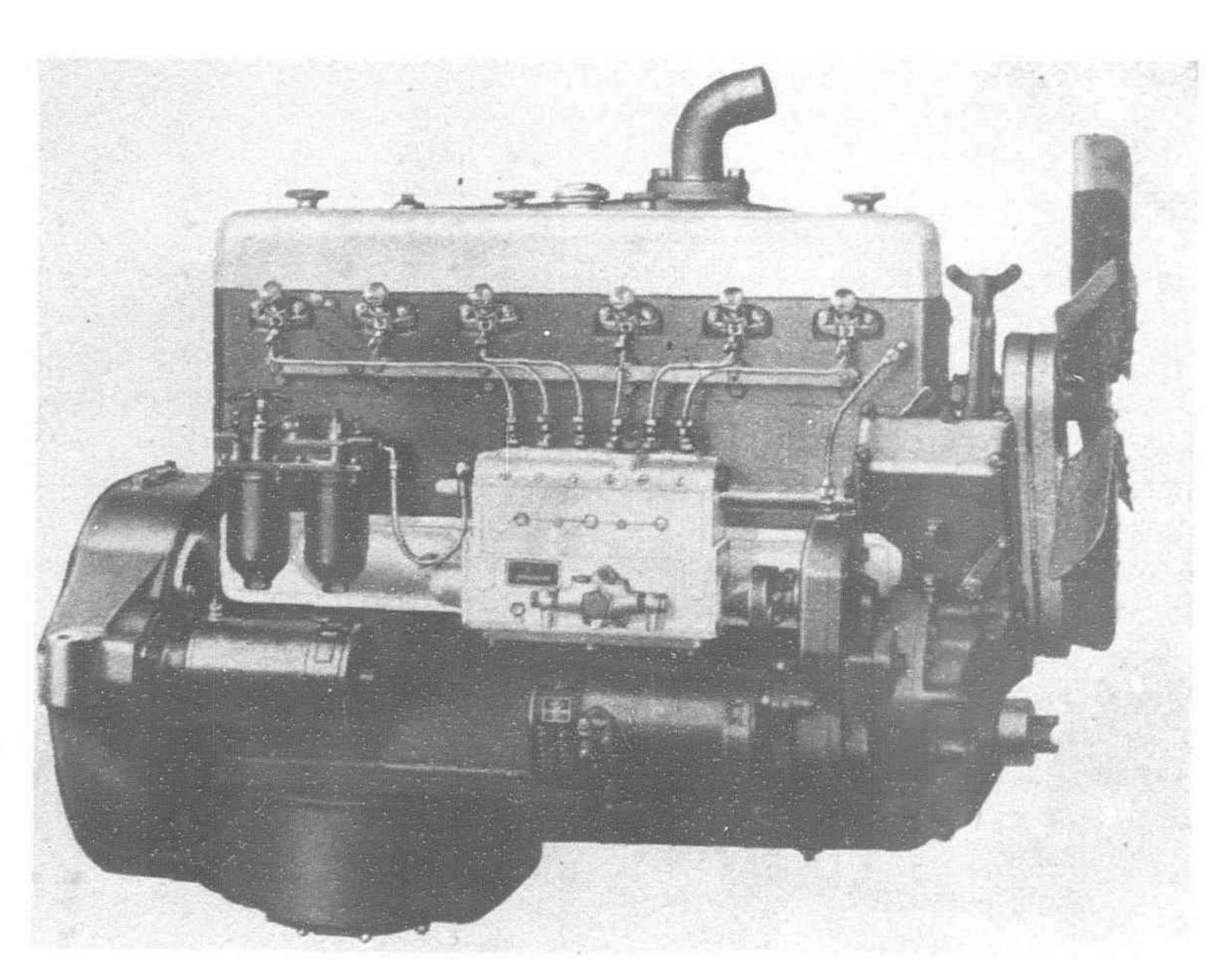
The largest Hesselman Engine built. Delivers 300 h.p. at 850 r.p.m. Burns furnace oils and can be supplied for Stationary or Portable Service. Used for Municipal Light and Water Plants and Heavy Duty Industrial Machinery



Exhaust Manifold Side of Hesselman Automotive Engine for Trucks, Buses and General Transport Service. Six Cylinders, 3\%" x 4\%", delivering 75 h.p at 2.500 r.p.m. and burning furnace oils

is fed under pressure—main, connecting rod, piston pin, rocker arm, fuel pump, shafts, and idler gear stud and gears. The lubricating oil is filtered continuously through a special type of oil filter developed at the Waukesha factory and manufactured by the Michiana Products Company. On Evans' car, this is a triple unit Duo-Flow which affords 50 per cent extra capacity under sustained high speeds. The standard double unit Purolator edge filter and cloth type is used on the fuel system.

Of course, to build a high speed racing engine would be entirely practical, and many things to lighten the weight of the engine which now is 2,500 pounds, and increase its power weight ratio could be done; but little significance could be attached to the performance of such a unit, where as a demonstration of the ability of a standard stock engine to stand sustained high speeds and perform under these conditions answers many questions in the minds of the average truck and bus operator which at the present time are still to be proved. For trans-continental transportation, long distance freight and passenger hauling, just such ability has been difficult to build even into gasoline engines so that although the improved fuel economy of Diesel engines has never been questioned, the road ability these tests will bring out should settle the last moot point.



The Century Comet Six, a 100 h.p. Six-Cylinder Diesel Engine for Trucks, Buses and Transport Duty. This is a Full Compression Ignition Engine which has the Ricardo Comet Combustion Chamber and barns the modern "High Speed Diesel Fuels."

Waukesha-Hesselman Engines

In presenting the group of solid injection, spark ignition Hesselman Oil Engines, the Waukesha Motor Company does not offer them as a substitute for compression ignition Diesel engines. Rather the Hesselman should be considered as supplementary to the Diesel... as an engine that expands the field of economic application of fuel oil power... an engine that will fit into many places where a Diesel engine cannot be economically applied. For those duties best performed by compression ignition engines, the Waukesha Comet Diesel is offered.

The Hesselman injector is an open type with large orifices. There are three ball check valves in series to prevent cylinder pressures from communicating to the fuel lines. In three years of service, no Hesselman injector has ever required replacement. The Hesselman combustion chamber is formed by the concave piston head itself. It is symmetrical and smooth, and does not carbonize. The piston is a single casting with no slots to separate the head from the skirt. This promotes exceptional cooling as the heat flow from the head to the skirt is not interrupted even by piston rings as in most designs. Excess fuel from over-priming is caught

in the cupped piston head.

The Bosch fuel pumps, originally imported, are now made in America together with the high tension magnetos and spark plugs. The widespread use of Waukesha-Hesselman Engines has resulted in the establishment of these manufacturing facilities in the U.S. The Waukesha Motor Company in the field it serves is the largest user of Bosch injection equipment in the United States. Hesselman Engines are overhead valve engines which permit the use of renewable wet type of cylinder sleeves. In all heavy duty machinery, this is a maintenance feature that adds to the economy of operation.

Waukesha engineers pioneered pressure lubrication—the standard system on all Waukesha Engines for nearly twenty years. Oil is ferced, under pressure, in positive channels to every bearing and working surface within the engine. Oil reaches every part

under all operating conditions.

The Waukesha-Hesselman Engine is a low compression engine which burns Diesel fuels. The solid injection of the fuel is the same as employed in the solid injection Diesel engine, but an electric spark ignites the charge instead of the heat of compression. Hesselman Engines are so simple that any operator who has had experience with gasoline engines will find the Hesselman easy to understand, and easy to maintain. Waukesha-Hesselman Engines are built in sizes that range from 20 h.p. to 300 h.p., both in four-cylinder and six-cylinder types. They weigh approximately the same as a gasoline engine of the same size plus thirty to fifty pounds—the weight of the injection apparatus.

The Hesselman Engine was invented and developed by one of the three leading European Diesel engineers, Mr. K. J. E. Hesselman. Mr. Hesselman, besides being an authority on conventional Diesel engines, is the originator of hundreds of patents applying to them, and most of his professional lifetime has been spent in the development and improvement of the conventional high pressure Diesel engine. Thus, the Hesselman Engine represents a Diesel designer's solution of the fundamental problems encountered in high speed Diesel engines. It is not the effort of a carburetor engine designer to make Diesel fuels work in a low pressure engine.

The Waukesha-Hesselman Oil Engine is in no sense a temi-Diesel. It has no hot-bulb or hot-spot which requires preliminary heating to start it. Like a gasoline engine, it starts easily and promptly, may be hand cranked, and requires no lengthy warm-up period. It burns its fuel as cleanly, and it runs as smoothly as a gasoline engine. At neither light nor heavy loads has it the slightest tendency to build up excess combustion chamber carbon. Compared with its gasoline counterpart it develops the equivalent or greater power. Not dependent upon high pressures for ignition, the Hesselman Engine is no more sensitive to conditions of cylinder and ring wear, or to valve seating than a gasoline engine. Furthermore, normal variations in the ignition characteristics of commercial fuels have less effect on the Hesselman Engine than on any other type of oil engine.

The Hesselman cycle is as easy to understand as the four-cycle gasoline engine. On the intake stroke, air alone is admitted to the cylinder—no fuel until compression is nearly completed. The charge of air is compressed to about 150 lb., and just before the end of the compression stroke, the fuel is injected by a con-

ventional Diesel injection pump. Owing to the form of the combustion chamber, the air is compressed in a definite turbulence pattern which picks up the finely atomized fuel from the injector, thoroughly mixes with it, and sweeps it, as a highly combustible mixture, past the spark plug which ignites the charge. This produces the power on the power stroke. Next, the exhaust valve opens, the piston returns, the cylinder is scavenged, and thus prepared for a repetition of the cycle. Neither the air nor the fuel is pre-heated—an essential requirement for the carbureted-distillate type of engine—so that the delivered power and volumetric efficiency is correspondingly high.

The Hesselman Engine employs a simple, open type injector nozzle. There are two large spray holes, one spray directed against the air swirl, and one spray is directed with it. This atomizes and mixes the fuel thoroughly without resorting to very small holes in the nozzle tip. Large holes eliminate many of the difficulties common to nozzles with small orifices. They do not become clogged with minute particles of foreign matter which may be

present in the fuel, nor does carbon lodge in them.

Standard Waukesha-Hesselman Engines are built to operate on practically all clean, refined commercial Diesel fuels. Except in most unusual cases, whatever fuel is giving satisfaction in solid injection Diesel engines of equivalent size and speed range, may be used with equal satisfaction in a Hesselman Engine. In this respect, the Hesselman Engine and the high-speed Diesel engine are alike, but unlike the high-speed Diesel engine, there are many fuels that the Hesselman Engine can use smoothly and efficiently that would be rough and detrimental to a compression ignition

engine.

Fuels with a high carbon, gum, acid, or sulphur content should be avoided with the Hesselman Engine the same as with any other solid injection engine. Fuels that are too heavy to flow readily at the surrounding operating temperatures, or too light to lubricate the injection system, should naturally be avoided. In the case of fuels which do not have inherent lubricating properties, such as kerosenes and distillates, this deficiency can be made up by introducing a very small amount of engine lubricating oil mixed with the fuel, as in other respects, the Hesselman Engines can utilize these lighter oils with perfectly smooth, clean combustion. Thus, standard furnace oils, Nos. 1, 2 and 3, kerosenes and distillates as well as commercial high speed Diesel fuels are available for use with Hesselman Engines. The more expensive fuels of lighter grades offer no advantage so that the heavier oils in these classifications should be used wherever they are available.

The practical significance of this is that suitable fuels can be found anywhere where high speed Diesels are in use, and in many odd corners of the world where only kerosenes or distillates are

available.

The American Society for Testing Materials, in conjunction with the Diesel Manufacturer's Association has just published new "tentative" specifications for high speed Diesel fuels, and refineries are now prepared to produce and market these fuels in quantities. Cetane numbers are given as one of these standard ASTM specifications. Where very high cetane fuels must be used, Hesselman Engines can be made to accommodate them by special equipment furnished for lowering the compression ratio. The Waukesha research staff, as a part of a large program for fuel research, has been co-operating in this Diesel fuel standardization, and accordingly Hesselman Engines will always be designed to operate satisfactorily on these standard high speed Diesel fuels.

Starting a Hesselman Engine is the same as starting a modern gasoline engine of equal size. As with gasoline engines, a primer is used which atomizes and sprays a small charge of gasoline into the air intake manifold. This priming charge flows readily into the cylinder through the overhead valves. But unlike the gasoline engine, excessive priming does not result in damage to the engine. Any excess priming charge is caught in the cup-shaped piston head which forms the Hesselman combustion chamber where it remains, and is burned instead of destroying the cylinder wall lubricating film. Extra metal in the design of the Hesselman piston head combined with a slightly higher compression ratio than used in gasoline engines, aids in supplying and holding sufficient heat to insure a combustible mixture at the spark plug. As soon as the engine fires, it begins to function on fuel oil. Even in the coldest weather, a Hesselman Engine requires no more priming, nor any longer warm-up period than its gasoline counterpart under similar conditions.

operation.

In precise laboratory tests, Hesselman Engines may not equal the economy of a compression ignition full Diesel engine. However, in practical service, they have many times shown field economies fully equal to Diesel engines doing the same work at the same time and in the same place. One American builder of Hesselman powered equipment that has been used in many foreign fields, states that combined fuel savings of more than half over gasoline driven equipment have been obtained. At one-half to threequarter load, the average fuel consumption for all sizes will be .50 lb. of fuel per brake horse-power hour, or less, with slightly more at full load. When the weight of fuel oil is taken into consideration, the quantity used, as compared with gasoline, is fully 20-30 per cent less. Production engines show brake mean effective pressures of 100 lb. per sq. in. with this low fuel rate. Since most industrial loads vary over a wide range, the Hesselman economy characteristic makes this engine particularly profitable where fuel costs are a major expense consideration.

When first manufactured, the vital parts of the Hesselman Engine, the injection apparatus, spark plugs, and magnetos were imported. Now there are a number of American sources of supply on spark plugs, and the Bosch fuel pump and magneto are being built in this country as well. Thus, world-wide service on the vital parts is insured. Mechanical upkeep, due to its low maximum pressures and the absence of violent stress reversals, is exactly on a par with gasoline engines of the same size. Likewise, any mechanism driven by Hesselman Engines, relieved of excessive momentary stresses, gives service equivalent to a gasoline driven unit. The maximum compression pressure of 125-150 lb. is followed by a combustion pressure well under 500 lb., pressures at which most modern gasoline engines operate. Moderate weight flywheels may thus be used, and these in turn permit quick response to the demands of acceleration or sudden increased power output. These two operating conditions may be met with perfect smoothness of

Speed control is obtained by a simple butterfly in the air intake. Fuel and air are proportioned automatically at varying loads and speeds, by a vacuum control. The control links the manifold to the fuel injection system so that with a high manifold depression—closed throttle—the fuel is cut down, and vice versa. This permits the simplest governor hook-up, and the employment

of the standard Waukesha built-in governor.

The Waukesha built-in governor design is now nearly twenty years old. It is built into the engine proper, and not attached to any of the accessories. Continuous refinement has improved its performance and life, but has not changed its basic design. Large rugged parts, hardened and ground supporting pins and bushings, complete enclosure, and continuous lubrication by the engine oiling

system insure its long life and reliable performance. Since it is built into the engine, special operating characteristics can be easily incorporated for those duties requiring manual variation in speed by governor control, and at the same time, afford protection against over-speeding. The Waukesha governor is a major feature of every Waukesha Engine, and is not a minor accessory.

Full pressure by a geared pump delivers oil to all bearings, shafts, and gears within the engine, while crankcase mist flood oils the pistons and cylinders. Pressure is maintained under all conditions of oil level and temperature by the patented Oil Level Equalizer. Scavenger pumps can be had for service where the engine is to be tipped at extreme angles fore and aft. The pressure control valve can be set without stopping the engine or disturbing

any of the internal parts.

Large capacity water jackets, with each cylinder and valve fully surrounded by water, are fed by a water pump mounted on a stainless steel shaft. This pump builds up a definite pressure which thoroughly scours the valve seats and cylinder heads. Deposits of sludge and lime are thus reduced to a minimum. Ports and passages direct the cooling water in definite paths for uniformly efficient operating temperatures. A thermostat is built into the water manifold to control the jacket temperatures.

An American-built Bosch fuel pump, with special features to suit the Waukesha-Hesselman cycle, gives Waukesha users the benefit of many economies afforded through special quantity production. The pump has a minimum of parts, and many of them are interchangeable duplicates. With the world-wide facilities of the Waukesha and the Bosch organizations, Waukesha-Hesselman Engines can be quickly and economically serviced in any civilized

country in the world.

Since the Hesselman Engine is a moderate pressure engine the same as modern gasoline engines, the most popular sizes are interchangeable with similar sizes of the regular Waukesha gasoline series. Both manufacturers and operators may now install a Waukesha-Hesselman Engine in the same space and without any change in transmissions, clutches, foundations, or auxiliary drives. No added strength in these driven parts is needed if they are sufficiently sturdy for gasoline powered equipment. This characteristic of the Hesselman Engine makes it especially well adapted for factory conversion of new-built carburetor engines to the Hesselman injection type. The mere substitution of pistons and cylinder heads and the addition of the Hesselman fuel system is sufficient, without the need of any major changes. Such a conversion is already in production for one large tractor manufacturer, and a number of others have been designed and are under consideration. Conversion of old engines in the field involves other changes, and is not to be undertaken.

Japanese Steel Industry

Last year as a result of heavy military requirements that over-production in the near future is seriously feared. During the last three years, pig-iron output has advanced from 1,407,000 metric tons in 1931, 1,541,000 tons in 1932 to 1,850,000 tons in 1933, while steel output was 1,693,000, 2,123,000 and 2,840,000 tons in the same years respectively. The rapid rate of increase is being maintained, for on the basis of the March quarter's figures pig-iron output this year will probably be 2,306,000 tons and that of steel 3,551,000 tons. The capacity of the ironworks and steelworks has grown to such an extent that in 1935 the output of pig-iron is estimated to be 2,750,000 tons and that of steel 3,600,000; it will be noted that the latter figure will be practically attained this year. Some details of the increase in capacity are given below.

The eight new blast furnaces put into use during 1933 alone have brought an increase of 780,000 tons of pig-iron per annum. The Yamata works have one new 250 ton and one new 700 ton furnace, the Wanishi works a new 230 ton furnace, the Kamaishi works a 420 ton furnace, the Kenjiho a new 200 ton furnace and the Honkeiko works a new 170 ton furnace. These furnaces will be in full operation during this year. Other furnaces are to be started up and will raise the total annual capacity to about 3,000,000 tons.

Seven open-hearth furnaces were started in 1933 and include 50 ton furnaces at each the Kamaishi, the Nakayama steelworks

(two furnaces) and the Asano shipyards, and 25 ton furnaces at each the Japan, Osaka and Asano-Kokura steelworks, making a total additional capacity of 295,200 tons of steel per annum. Including other furnaces, the increase in capacity is close on 500,000 metric tons, all of which is expected to be in production throughout the current year. Extensions are also planned, and it is estimated that these will raise the capacity to a level showing an increase of 1,000,000 tons over the beginning of 1933.

New electric furnaces installed in 1933 totalled 14, with a total capacity of 107,328 tons per annum. These included two 15 ton furnaces, one 10 ton furnace, and the rest under 10 tons; there was one ½-ton furnace. Electric furnaces under construction or projected are expected to raise the potential output from these furnaces to 200,000 metric tons in excess of the capacity in operation

at the beginning of 1933.

Rolling-mill capacity also increased last year by no less than 294,000 tons. The Yawata-Seitetsusho installed plant for making 60,000 tons of tinplate per annum, the Kamaishi works equipment for medium plates (48,000 tons), the Osaka steelworks installed plate mills (30,000 tons), the Nakayama, Azuma and Kone steelworks, wire-red mills, with capacities of 36,000, 24,000 and 72,000 tons respectively, and the Senju iron-plate works plant for rolling black sheets, with a capacity of 24,000 tons per annum.—Iron Coal Trades Review.

The Evershed Golden Jubilee

The survival for 50 years under one management of a manufacturing business in the electrical industry is a phenomenon rare, if not unique. That, however, is the record of the business of Evershed & Vignoles Ltd., which with its origins as far back as 1886 has been managed or presided over ever since by Sydney Evershed.

Early in 1886, Sydney Evershed applied to the firm of Goolden & Trotter for the post of Manager of the factory in which they proposed to make Cardew Voltmeters for the Navy. Evershed took with him samples of a measuring instrument of the moving

iron type which he had made with his own hands, the characteristic of which was that, by modification of the shape of the attracting irons, varying scales could be produced from those of approximately even divisions to those opened around some critical point. Instruments based on this principle are still made by. Evershed & Vignoles Ltd., and a number of other makers.

Evershed was successful in his application and entered on his duties in a factory employing some half dozen men in premises formerly a stable in Kings Head Court, Westminster, almost opposite St. James Park Station.

Goolden & Trotter, who had succeeded Edmunds & Goolden, the original firm founded in Halifax, still carried on the dynamo section of their business in that town. In 1888, however, A. P. Trotter having retired, Llewellyn B. Atkinson joined Goolden and the firm took the name of W. T. Goolden & Co. The whole of the

business was then concentrated at Woodfield Works, near Westbourne Park Station; here E. B. Vignoles joined the Company and first met Sydney Evershed thus starting a lifelong association.

strument of the moving at the same time to the

The Meg Tester

anticipation was realized and the Evershed Testing Set soon came into general use for testing insulation.

During the first 15 years the instrument, though improved in design from time to time, remained an equipment in two cases, in one the Ohmmeter, in the other the magneto generator. In 1904, a radical change was made by the introduction of a moving coils ohmmeter which formed a single unit with its generator, so that the whole could be mounted in one case.

The trade-mark "Megger," derived from megohm, was devised at the same time to distinguish the products of the Company,

and the Megger Insulation Testing Set became known and used in every country in the World.

From the original "Megger" Testing Set have been developed the Bridge-Megger for the measurement of resistance by the Wheatstone Bridge method, and the Ducter Testing Set for low resistance down to one microhm.

When designing his first insulation tester, Evershed's object was to produce an instrument combining simplicity, mechanical strength and accuracy in such a way that results would be obtainable on site by an unskilled worker equal to those obtained by laboratory methods. This feature has been retained in the design of all the later instruments.

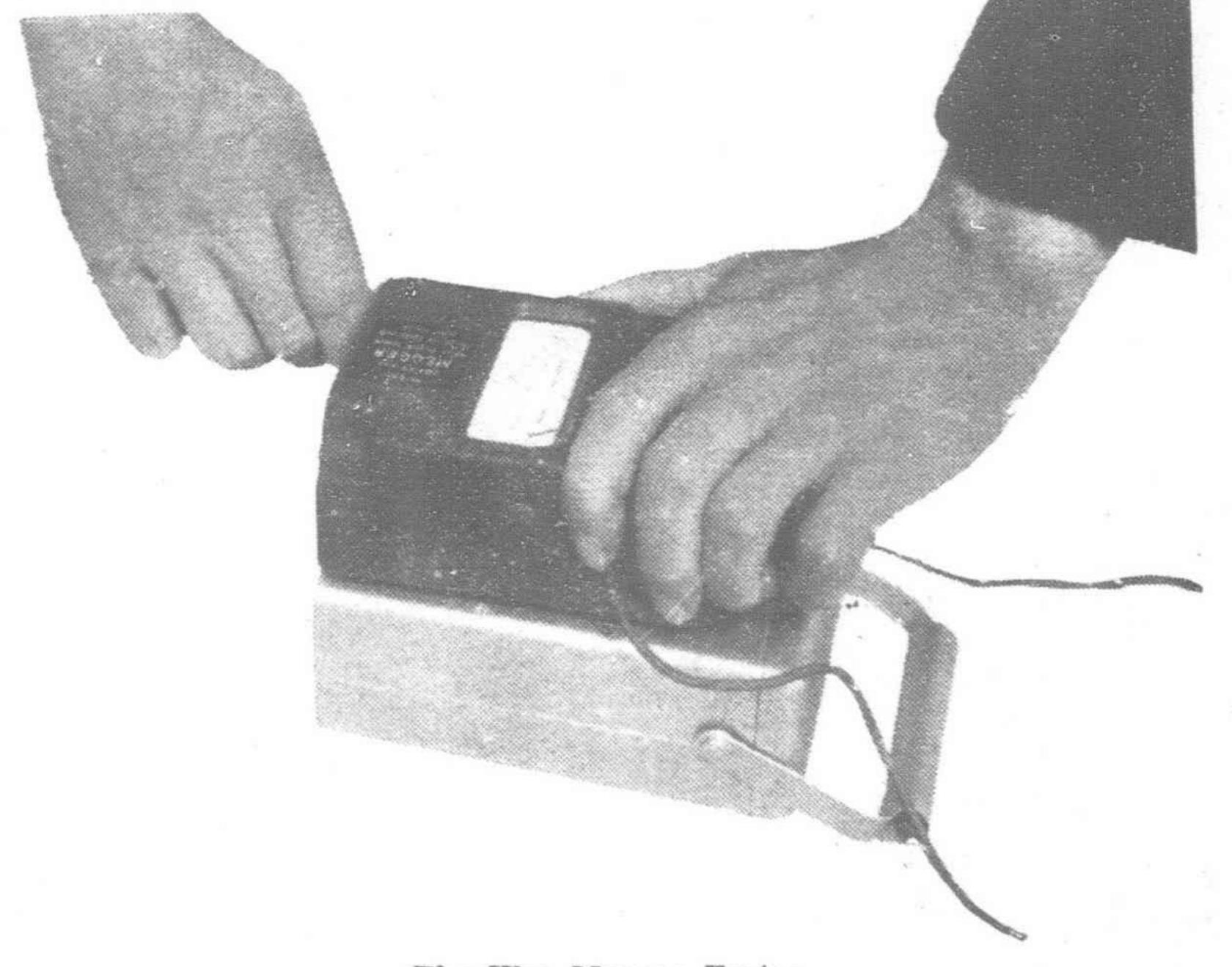
Subsequent developments of the Meg. the Bridge-Meg and the wee-Megger-Tester embodied no new principle but were chiefly characterized by successive reductions in weight and dimensions with a view to increasing

their portability and consequent usefulness.

Birth of the Megger Tester

With the growth of electricity supply a demand arose for the wiring of houses, and Goolden & Trotter formed a department for work of this kind. Insulation became a factor of primary importance and it was soon found that tests at low pressure were

insufficient to reveal defects which might lead to breakdown at a higher voltage. It occurred to Evershed that the Ohmmeter devised by Ayrton and Perry for measuring low resistances might be adapted as a direct reading instrument for the measurement of insulation, current being derived from a magneto generator small enough to be carried in the hand, yet capable of developing a pressure comparable with that of the supply. Thus originated the Evershed Insulation Testing Set which, patented by Evershed, was first employed by Goolden & Trotter in their own work in 1888, and proving its value, was developed for general sale in 1889. "I should not be surprised "said W. T. Goolden to Evershed "if we sold a dozen of them." Goolden's



The Wee Megger Tester

Formation of the Present Company

In 1895, Evershed and his friends, supported by Adolph Vines who had joined the Company in 1891, purchased the goodwill of the instrument making business from Easton, Anderson & Goolden, who had succeeded W. T. Goolden & Co. A new company was registered under the name of Evershed & Vignoles Ltd., on February 5, 1895, the co-operation of Professor E. Ayrton being

secured, and the business was taken over with Sydney Evershed and E. B. Vignole as Managing Director as from July 1, 1895.

In 1900 freehold land was acquired for a new factory near Chiswick Park Station and in 1903 the business was moved to new premises erected on the site where the business is still carried on, which now extends to over three acres.

Admiralty Work

The connection with the Admiralty which had been a feature of Goolden's business in earlier days was maintained and developed by their successors. In 1893, Evershed in conjunction with A.E. Richards of the Corps of Royal Naval Constructors, developed the first Electrical Helm Indicator.

This apparatus, which embodied an application of the Ohmmeter principle, was installed for trial in *H.M.S. Narcissus* in 1893, and similar Rudder Indicators, improved in design from time to time, have been supplied to ships of H.M. Navy ever since that date.

The Company, in addition, manufacture a wide range of electrical measuring instruments and have specialized on apparatus for distant

indication and control.

Evershed's Scientific Work

While the development of the instruments and apparatus referred to was going on, Evershed was making a reputation as a scientific investigator. He studied in a long series of experiments the characteristics of the iron used in transformers; some of the results of his work appearing in a series of articles in "The Electrician," in the early 'nineties. He investigated the phenomena exhibited by insulating materials under electrical stress and obtained results of great interest which formed the subject of a paper read before the Institution of Electrical Engineers in 1913. His study of permanent magnets, continued over many years, gave invaluable data for design where rule of thumb methods had been prevalent, and the results of his study were given to the Institution in two papers in 1920 and 1925.

In later years he has devoted much thought and experiment to the subject of the constitution and properties of magnet steel with a view to the systematic production of material for permanent

magnets of the highest efficiency.

Sydney Evershed retired from the post of Managing Director in 1924, but has since directed the general policy of the Company as Chairman of the Board of Directors.

E. E. Vignoles ceased to be a Managing Director in 1931, having spent over 40 years in the business, but remains on the

Board.

The business of the Company in standard products and new developments continues to expand under the direction of Adolph Vines, a Managing Director since 1909, and Lt.-Col. W. A. Vignoles, who was appointed a Managing Director in 1931, the number of employees to-day being greater than at any other period in the history of the Company.

Twenty-six Centuries

(Continued from page 31)

Harbor to be Finished

Another fact which interests Japan in America's participation is that Tokyo, which expects to complete its new harbor project by 1940, and Yokohama, famous among the ports of the world, are links in American-Oriental communications and commerce. Years of friendly co-operation between Japan and the United States since Commodore Perry arrived in 1853, which have been evidenced in various fields of activity and which have stimulated Japan's rise to power, necessitate the co-operation of the United States in the forthcoming project, according to the message delivered by Mayor Ushizuka in inaugurating the exposition project last spring.

and the belief that expositions are the most ideal means of attaining international understanding by imparting information on the life, culture and activities of a nation to other peoples, Japan has been an active participant in 46 expositions abroad, about a dozen of which were international ones on a large scale. Japan has held ten large expositions in Tokyo, Kyoto and Osaka,

but they were all on a national scale.

Among the noteworthy foreign expositions in which Japan joined was that held in Vienna in 1873. Although then in the midst of revolutionary national changes and engaged in the organization of a new administrative system, Japan spent over Y.520,000 on its Vienna exhibit. Unschooled in the technique of exhibiting, the nation faced numerous difficulties in carrying out the project, yet that same year Japan joined another exposition in London.

Exhibited at Philadelphia

The first large exposition at which Japan exhibited was the centennial one in Philadelphia in 1876. Japan spent \$300,000

in that exposition, and only after the Japanese Government had made the greatest effort in educating industry and commerce on the meaning and value of such fairs. Since that time not a single exposition of note in the United States has been without a Japanese exhibit of some sort. These include the Atlanta Textile Exposition in 1881, the Industrial Exposition at Boston in 1883, the International Industrial Exposition at New Orleans in 1888, the Columbian Exposition at Chicago in 1893, in which Japan's exhibit of a well-constructed Japanese house in the architecture of the Fujiwara period was received with acclaim and is still preserved in Jackson Park; the International Exposition at St. Louis in 1904, which also featured a Japanese tea house in Fujiwara period design; the Panama Pacific Exposition at San Francisco in 1915 and the Century of Progress Fair at Chicago two years ago.

Japan participated in a big way in five expositions, the one in Paris in 1900 where she spent over Y.1,000,000, the Anglo-Japanese Exposition in London where she spent over Y.2,000,000, the Panama Pacific Exposition in which she spent over Y.1,000,000, the Philadelphia Sesqui-Centennial Exposition in 1926, and the last Chicago World's Fair, at both of which she spent Y.1,000,000.

Experience derived from these and many others in more than a score of nations will go into the final planning of Japan's own exposition in 1940. Probably soon after the Government's special committee on the commemoration of the Empire's 2,606th anniversary formulates and announces its plan early next year, formal invitations will be sent to the Governments of foreign countries.

What may ultimately result from the draft plans of to-day is difficult to predict, but Tokyo's big fair is being constructed along lines indicating that the event will go down in Japanese history

as a milestone in national progress.

A Billion Yen Building Bill

(Continued from page 28)

stories above the ground and basement, and a floor space of 1,500 tsubo.

A modern department store will be added to South Osaka, when the Daitetsu department store, seven stories high and having a double basement, with a floor space of 4,580 tsubo, is completed.

Aside from these, a new addition to the Yodogawa factory of the Kanegafuchi Spinning Mill is to be completed during 1936.

Among other important structures in Osaka upon which work is expected to be started, is the new Central Station of the Imperial Government Railways, plans for which have finally been completed and approved by the Government. The new station will be a five-story building with a frontage of 250 meters and a depth of 50 meters and will cost Y.3,000,000.

Japan to Make Aluminium

With the formal foundation of the Japan Aluminium Reduction Co. Japan claims four concerns of the kind using raw material obtained in Japan, Manchoukuo, Korea and the Netherlands East Indies.

The company will be capitalized at Y.10,000,000, a quarter of which will be paid up. Its object is to extract aluminium from bauxite from the Netherlands East Indies, using power supplied by the Taiwan Electric Power Co., Formosa. The enterprise will be undertaken by several business concerns, and a German expert will be engineer-in-chief.

Japan Aluminium promoters, headed by Mr. T. Isaka, have already entered into contract with the Netherlands East Indian

Government for the importation of bauxite.

According to Mr. Isaka, a contract has been signed between Japan Aluminium and Taiwan Power Co. for the purchase of 25,000 kilowatts of power a year for the industry. A factory site covering 70,000 tsubo has been purchased at Takao.

"The International Aluminium Trust may dump its products after Japan Aluminium enters the market, but Japan Aluminium is prepared for this," Mr. Isaka said. "The company will be able to supply the highest quality aluminium now quoted at Y.1,500 a ton for about Y.1,000."—Rengo.

Tokyo's Busy Modern Harbor

Translated by S. KITAMURA, City Hall Construction Department

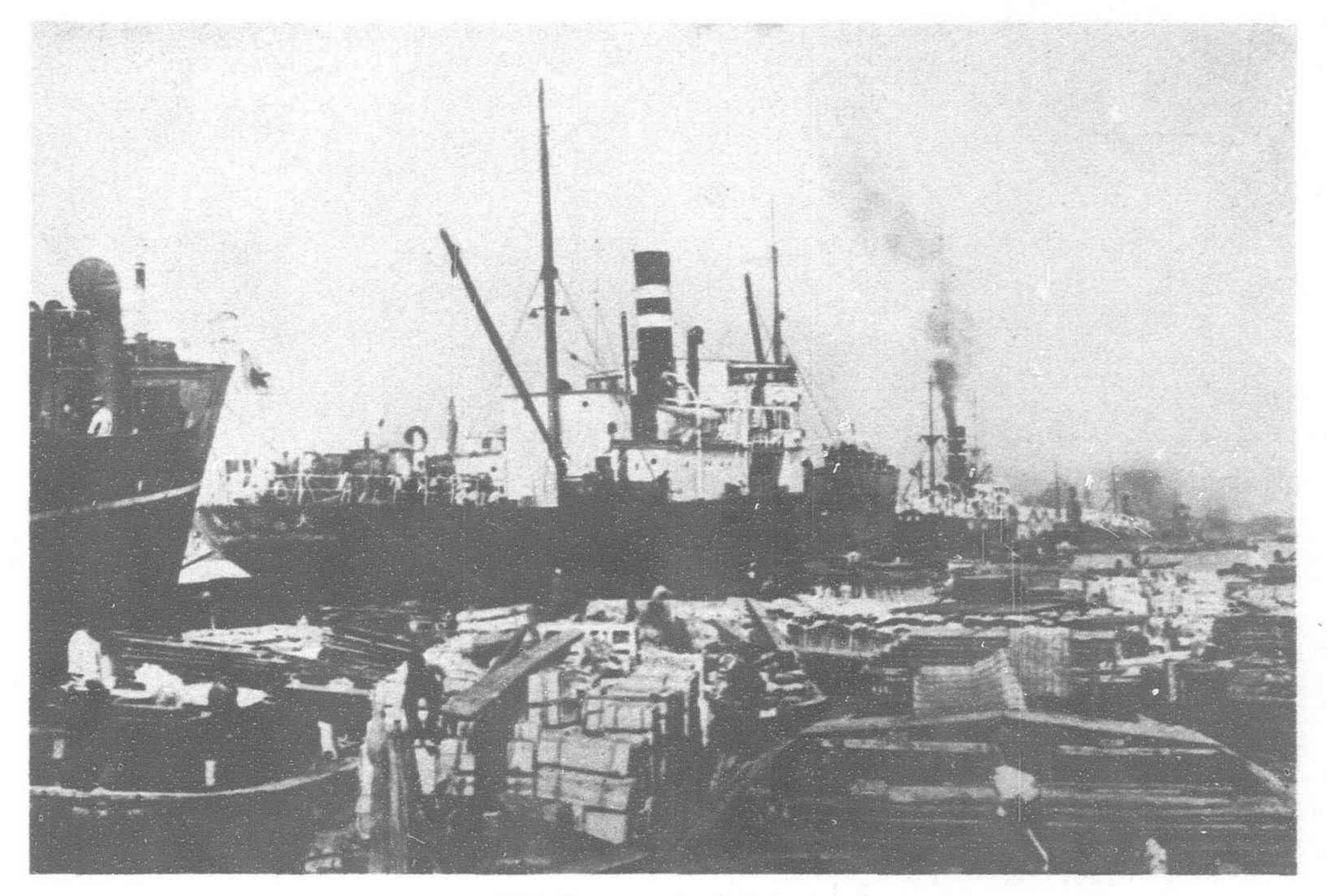
OKYO Harbor is one of the gates leading to the City of Tokyo. The improvement of the mouth of the River Sumida was completed last year, as preliminary to eventual construction of Tokyo Harbor. Few could have foreseen the present development of the port—the cloud of dense black smoke rising into the air from the funnels of numerous vessels entering and leaving port—the thunderous roar of winches busily loading cargo, and the many launches going to and fro. Such, at present, is the condition of the harbor. An impressive ceremony commemorating the opening of Tokyo Harbor was held at the Shibaura Pier in the Spring of last year. The port now serves with deserved pride, the six million citizens of Tokyo.

Location of the Port:—Tokyo Harbor extends from the mouth of the River Sumida, which runs through the center of Tokyo, to the neighboring sea guarded by several "Daiba" at Shinagawa Bay (Daiba are the forts constructed for defence purposes during the period of the Tokugawa Shoguns). It is bounded by the reclaimed ground set aside for the construction of a New City Hall,

and the Shiba detached palace.

Harbor Limits:—Tokyo Harbor is very extensive. The area is encompassed by drawing a line from the right shore of the Edogawa River (flowing through the eastern part of the city of Tokyo and winds its way along the boundary line between Tokyo and Chiba Prefectures) at a point about a mile east south-east from the Haneda lighthouse and another line drawn from this point to the center of the lighthouse. The area above mentioned represents about 117,000,000 sq. meters. However, the portion generally known as Tokyo Harbor, bounded by "Daiba" and the temporary breakwater contains some 8,950,000 sq. meters; being approximately the area as that of Shiba Ward.

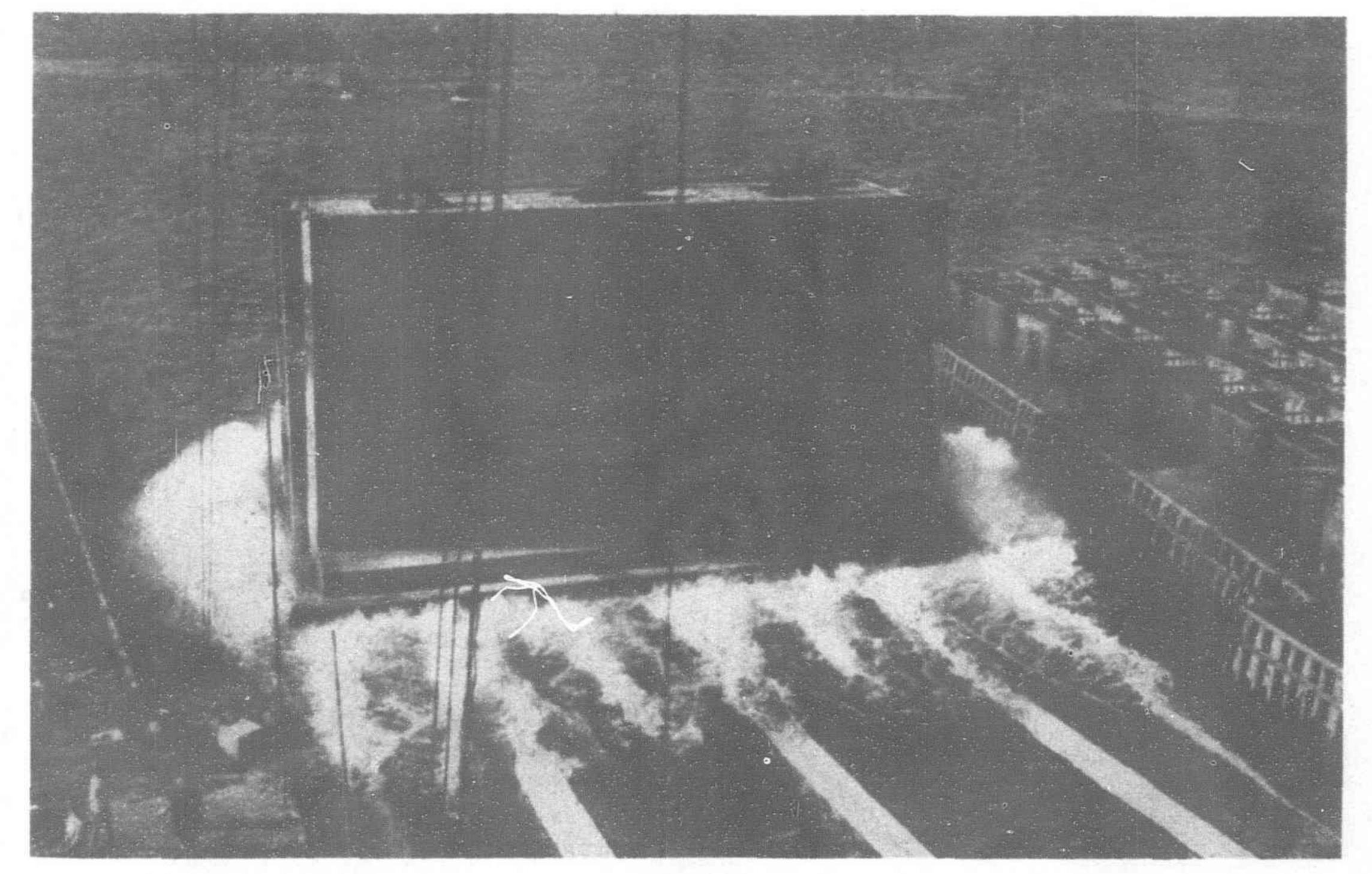
Expansion of the Harbor:—The population of the City of Tokyo is nearly six million, and the consumption of various kinds of goods is showing an increasing tendency day by day. Con-



The busy port of Tokyo

sequently, the amount of cargo landed in Tokyo Harbor is showing an increase each year, as evidenced by the fact that for every 100 tons cargo exported and imported during the year 1927, 248 tons were handled in 1934, or in actual figures 5,740,000 tons. In 1927, the number of vessels of more than 300 tons entering the port was 1,654 and in 1934, this had increased to 3,037. The rate of increase shown here is 183.

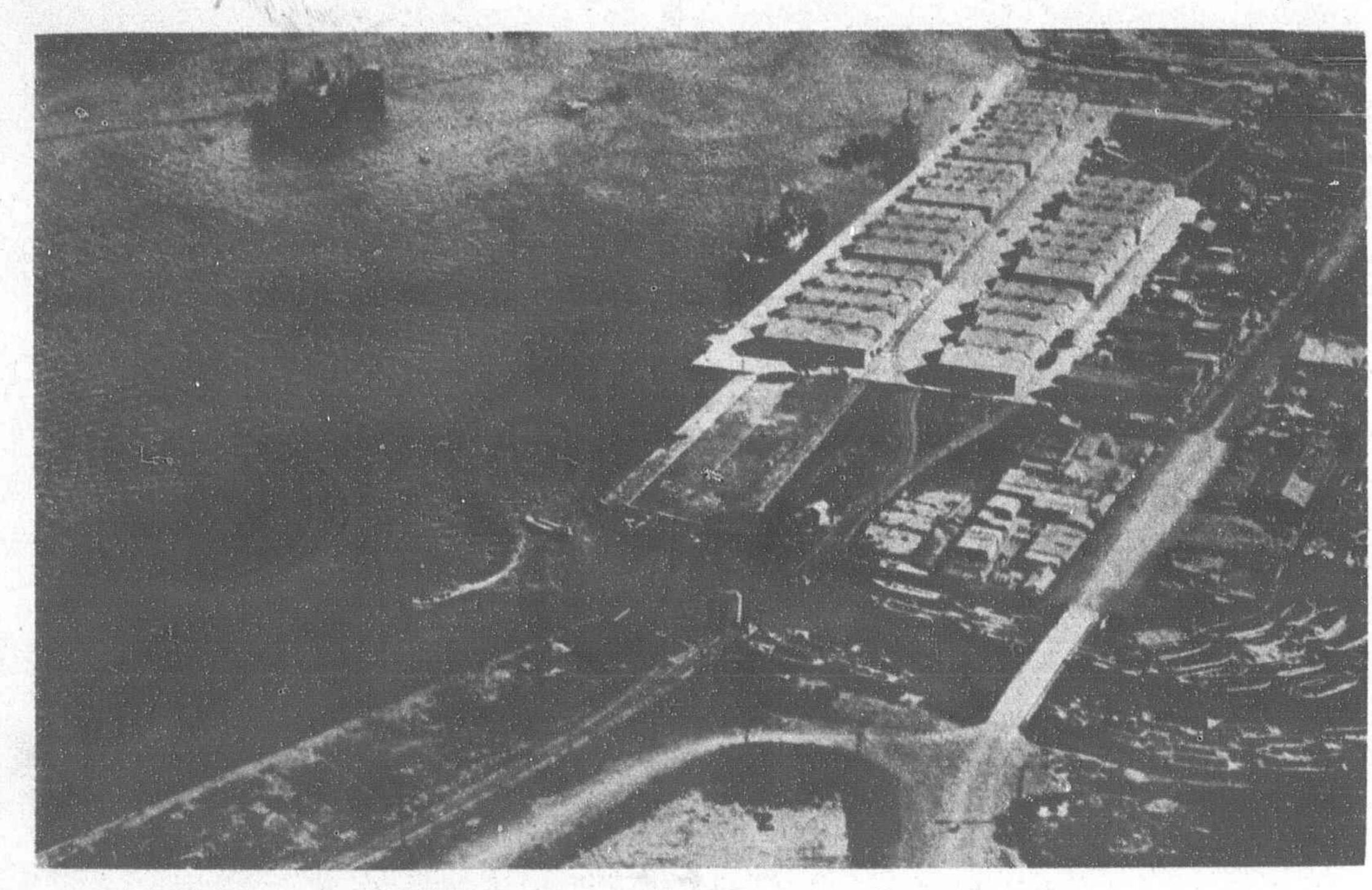
Characteristics of the Harbor:—Among several special features of this port, one of most noticeable is that Tokyo is primarily a cargo port. Another peculiarity is the unfavorable trade balance, and the fact that in most cases cargo is transported to the shore from the vessels by lighters. Of the total goods handled, 87 per cent is represented by imports, and only 13 per cent exports. In spite of the large amount of cargo handled, last year, only 4,900 passengers entered and left the port. Goods are usually not transported by lighters to the pier but in most cases the cargo is unloaded to the lighters from the vessels, the lighters then conveying them to the several canals which are situated in the upper part of the River Sumida. Last year, the proportion of cargo thus transported by means of the lighters was 93 per cent and only 7 per cent of the total cargo transported overland.



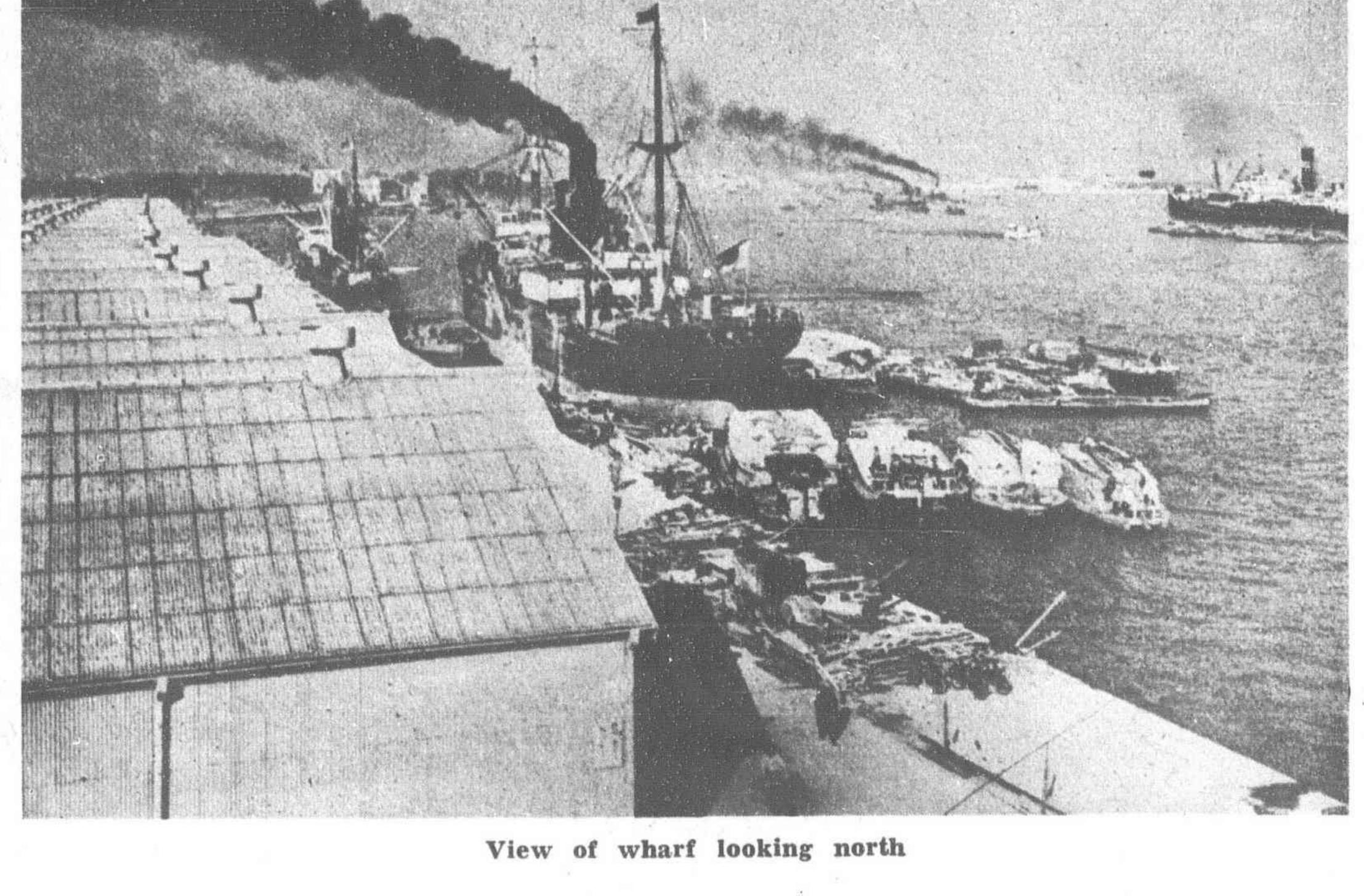
Launching a concrete caisson for use in wharf construction

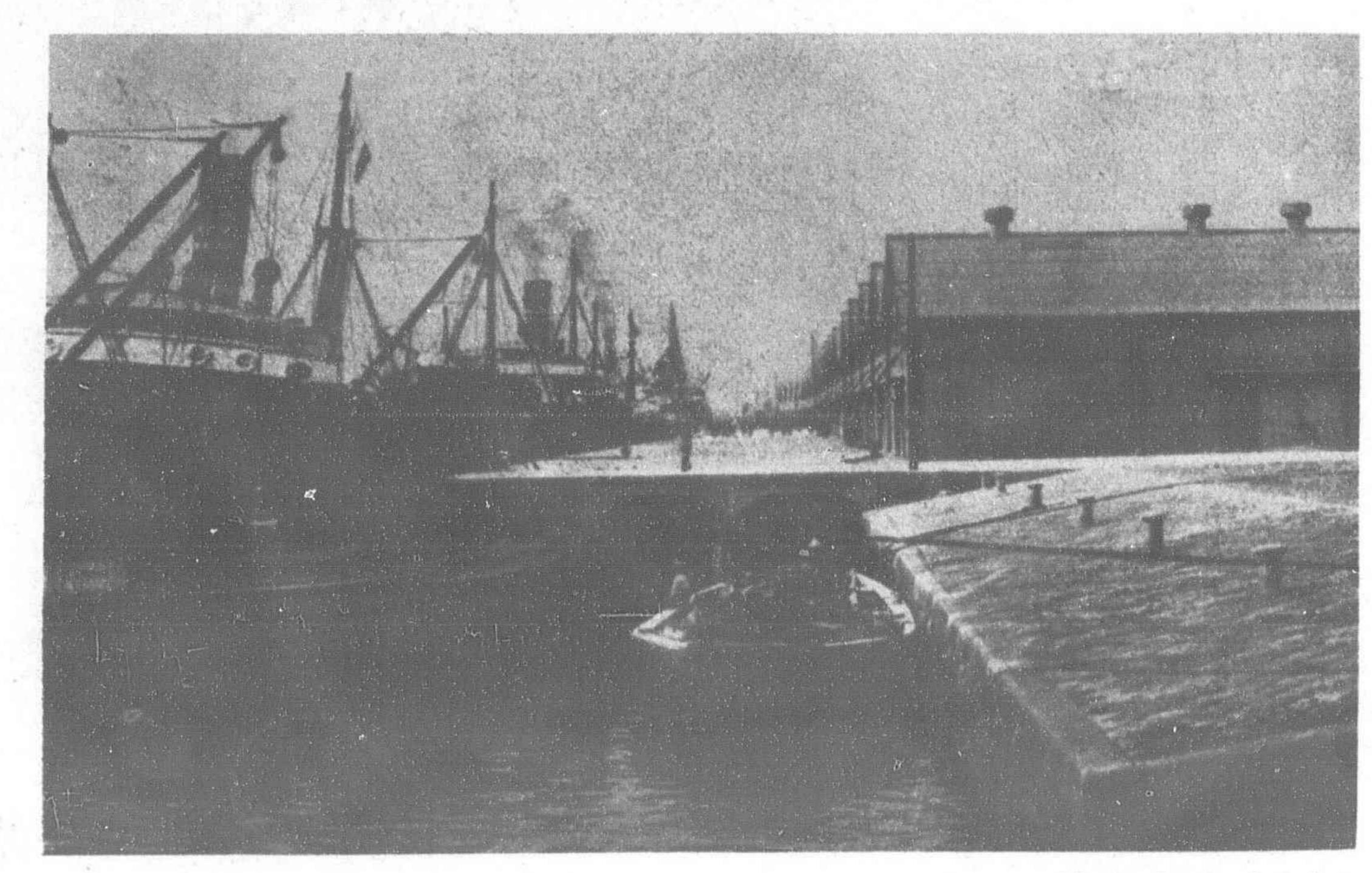
Arrangements of the Harbor

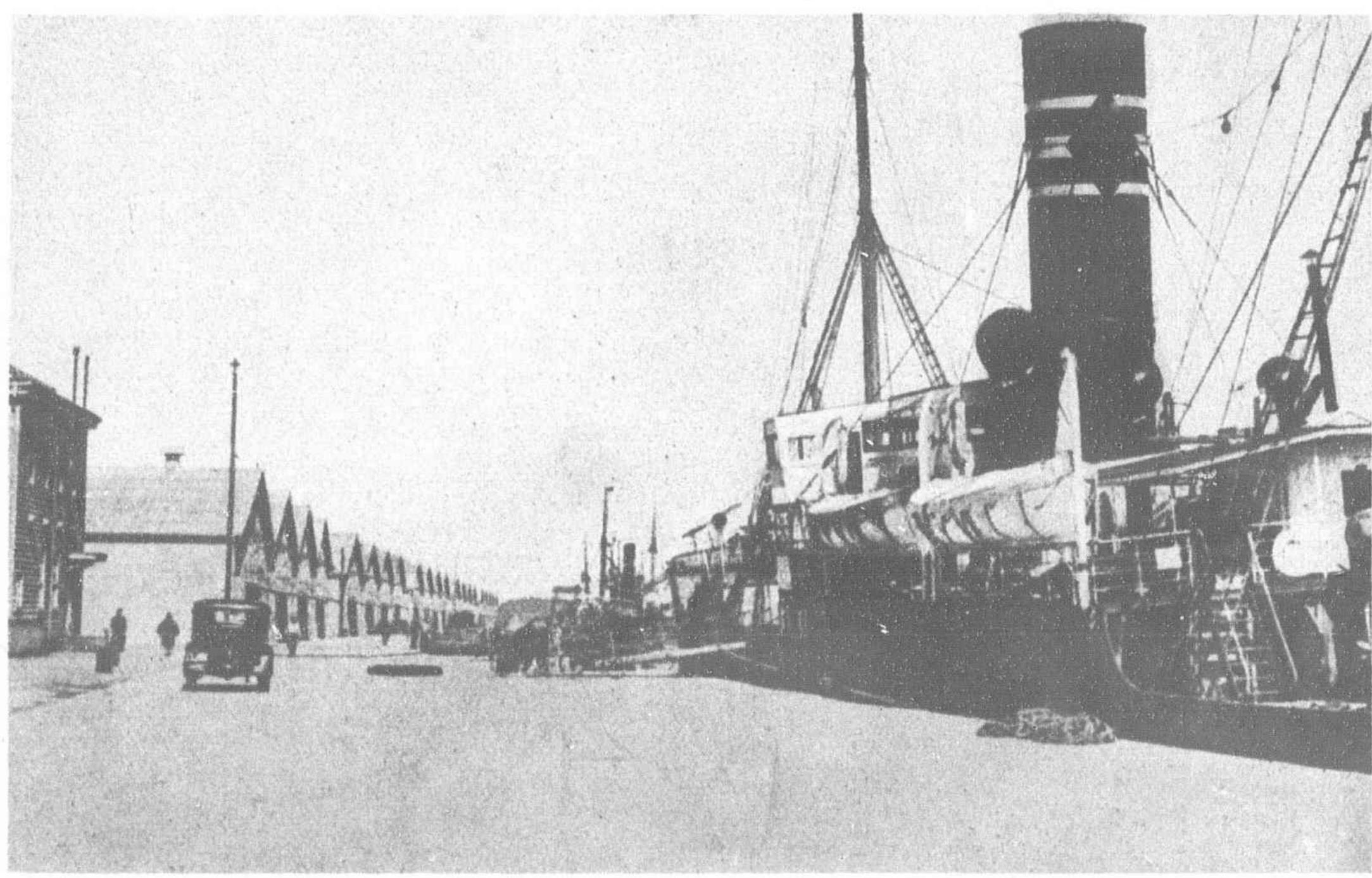
General:—Entrance to the harbor is made through a passage located between the second "Daiba" and fifth "Daiba" extending 5,260 meters in length to the southward with a width of 145 meters and depth of 6.6 meters at low tide, providing safe navigation for all vessels up to 6,000 ton class. Tide-poles and beacons are placed at both sides of the passage. In addition, lighted buoys are placed at both sides of the entrance and other winding parts of the passage, so that navigation at night is possible without any difficulty. A long temporary breakwater was constructed in order to insure a smooth sea within the harbor and facilitiate the work of loading cargo. This breakwater is located between the Fukagawa reclaimed ground and the third "Daiba" and rise 41 meters above the water at low tide, the width of the top being 36 meters (this breakwater is just like a long reclaimed ground, both sides of which are constructed of concrete and stone and the



Air view of completed wharves and warehouses







View of wharf and warehouses from both ends

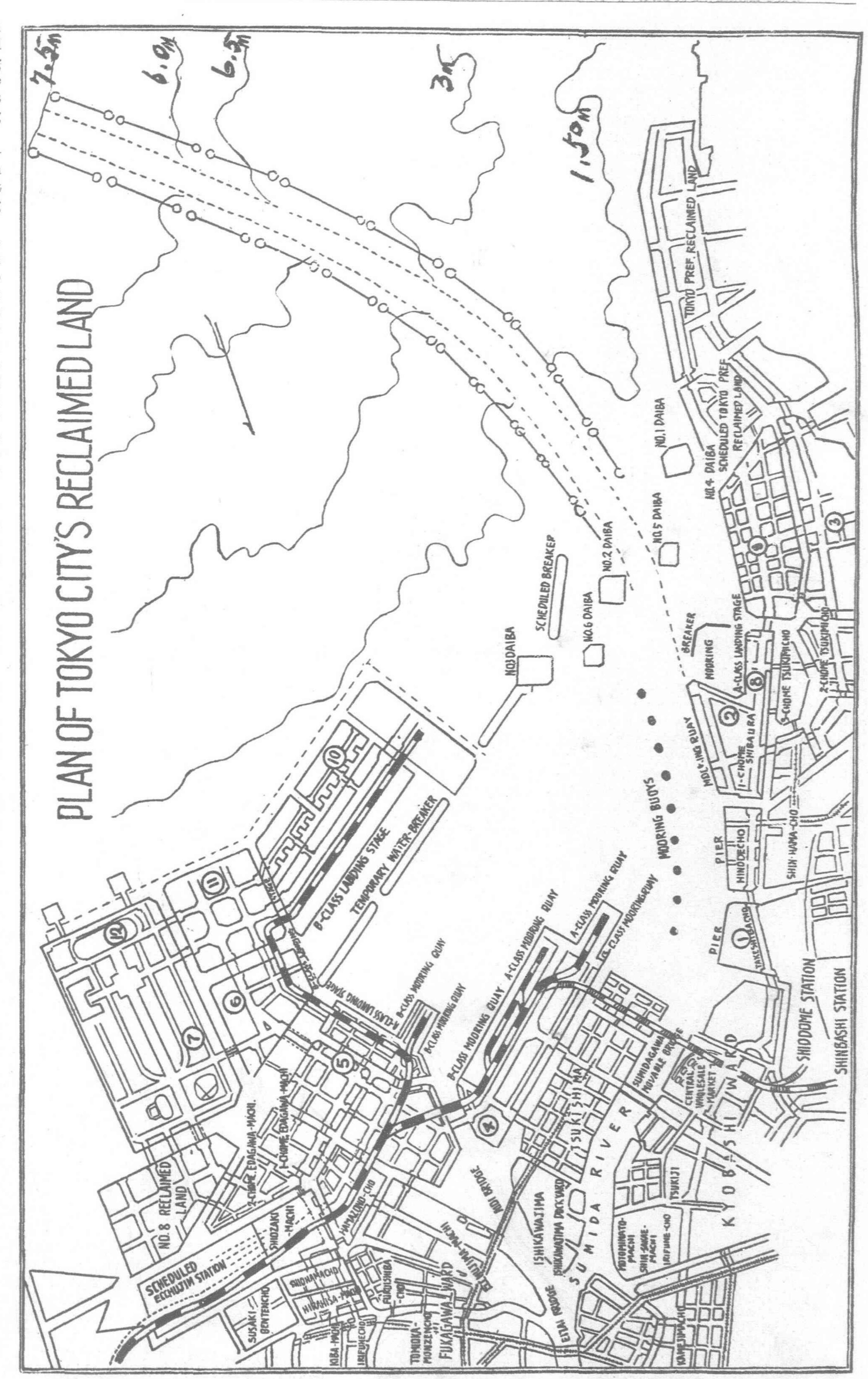
center filled in with earth). If you stand on the quays looking over the port, the breakwater extends before you like a long jetty.

Mooring Buoys:— Many buoys have been placed inside the port for the safe mooring of vessels.

There are altogether 30 buoys in Tokyo Harbor, in two rows of 15 each, six of them for 6,000 tons class vessels, nine for 7,000 tons class and for smaller others vessels. To avoid all dangers of collision caused by wind or current, each vessel is made fast to. the buoys both at the bow and the stern.

Piers and Quays: -At the time of the great earthquake disaster of 1923, the port flooded with was goods, and considerable trouble was experienced in unloading and disposing of the goods due to the inadequate scale of the piers. Immediately after the disaster, the Hinode-Cho pier was hurriedly constructed as a temporary meas-

At that time the depth of the water within the port was only five meters, and large vessels consequently found their bottoms grazing the sea bed. For that reason, the sea was dredged to a depth of 6.6 meters, and the present pier was completed in the year 1926. The pier is about 546 meters in length, and six vessels of less than 3,000 tons each can be accommodated alongside the pier at the same time. Since then the port has shown great development as is attested to by the increasing number of vessels entering the port, and the newly constructed Shibauramachi quay. It measures some 900 meters in length, the depth of the water immediately in front being $7\frac{1}{2}$



reters. This pier has accommodation for seven vessels of 6,000 tons class and was completed in June, 1932.

In November, 1934, the construction work of the Takeshiba-cho pier was completed. It has a length of 309 meters and has accommodation for three vessels of under 3,000 tons each at the same time. Loading places at the northern end of the Hinode-cho pier and several other places have been reserved for the convenience of loading the cargo of smaller boats or lighters.

Throughout the year 17 or 18 vessels may be seen lying alongside the quays with men busily engaged in the loading and unloading of cargo. Few, if any, realize the functions and value of the harbor in the matter of transportation of materials vital to our industries and our daily life.

At present, the depth of the water within the port has been standardized for the navigation of 6,000 tons class vessels. The reason for this is that Tokyo Harbor, being principally a cargo port, the entrance of larger sized freighters is not anticipated.

Sheds and Warehouses:—All goods, after they are landed, are transported to their respective destinations either by railway or motor trucks; but in some cases this has been found impossible due to the enormous volume and other factors. In sections of the grounds adjacent to the Hinode-cho pier and Shibaura-machi quay, a row of sheds have been constructed as temporary storage places for such goods. The goods thus placed in the warehouses are

sometimes put up for sale or otherwise repacked and transported to their destinations. There are eight sheds located at the rear of the Hinode-cho pier, the total floor area being 17,587 sq. meters. Of this number, six buildings have been reserved for special use while two are for general use. In addition, two sheds are now under construction in the grounds of the Sibaura-machi quay with a total floor area 6,016 sq. meters. This is also expected for general use.

Bonded Compound:—At the rear of the sheds, a special section of the Customs Compound has been set aside for the purpose of storing coal, lumber, iron materials and other goods not requiring storage in sheds.

Harbor Area Railway:—For the transportation of goods to their destinations, railway tracks have been laid from the Harbor Area to the Shiodome Station.

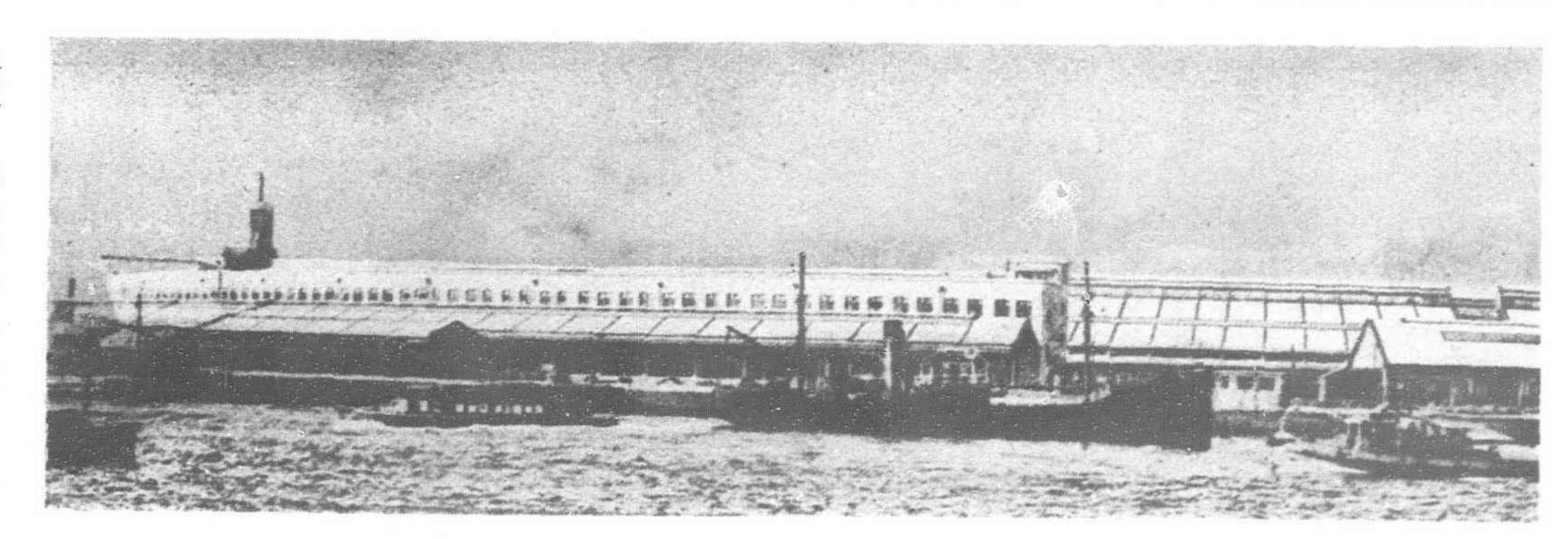
Arrival and Departure of Vessels

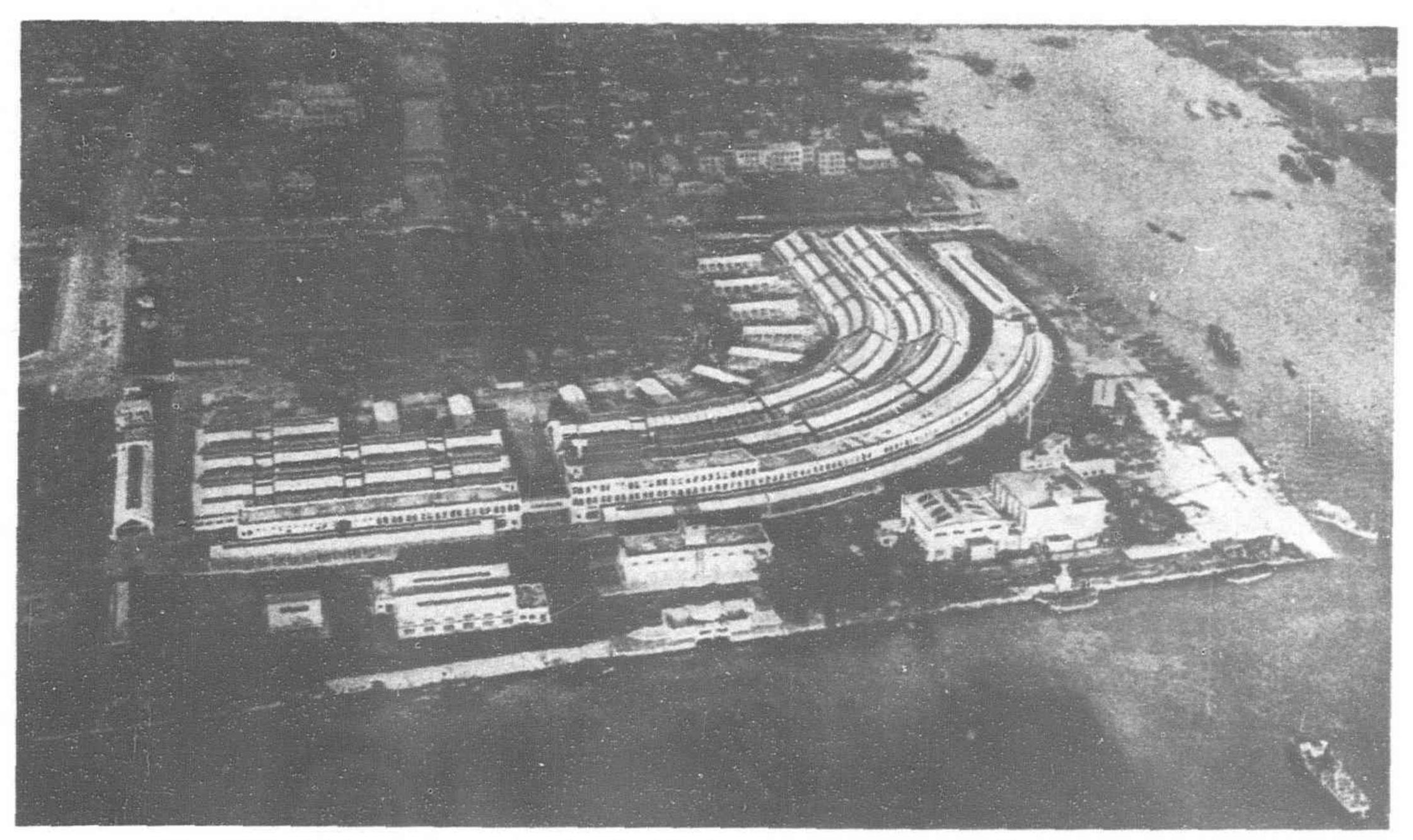
General:—As already mentioned, Tokyo Harbor has shown remarkable progress since the commencement of the improving work. Nine years have now passed after the completion of the Hinode-cho pier. During that period, the number of vessels of more than 300 tons arriving at the port were as follows:—

It is to be noted that the average yearly increase in the number of vessels is some 200.

Total number of vessels of more than 300 tons entering the Tokyo Harbor

Year		Number of arriving vessels	Index No.	Aggregate gross tonnage	Average tonnage for each vessel	Largest vessel entering port (gross tonnage)	An ave loaded g	rage amount oods for each
							(arrival)	(departure)
				Tons	Tons	Tons	Tons	Tons
1927		1,654	100	2,834,270	1,714	4,739	1,267	132
1928		1,869	113	3,399,091	1,819	4,740	1,340	141
1929		1,935	117	3,501,390	1,810	6,155	1,391	141
1930		1,972	119	- 3,823,450	1,939	6,097	1,300	106
1931		2,387	114	4,881,684	2,045	6,551	1,452	147
1932		2,715	161	5,858,121	2,158	6,169	1,462	155
1933		2,904	175	6,587,307	2,268	8,230	1,538	205
1934		3,037	183	7,258,167	2,399	8,281	1,639	250





The Y.15,000,000 Central Wholesale Market a feature of the Port of Tokyo

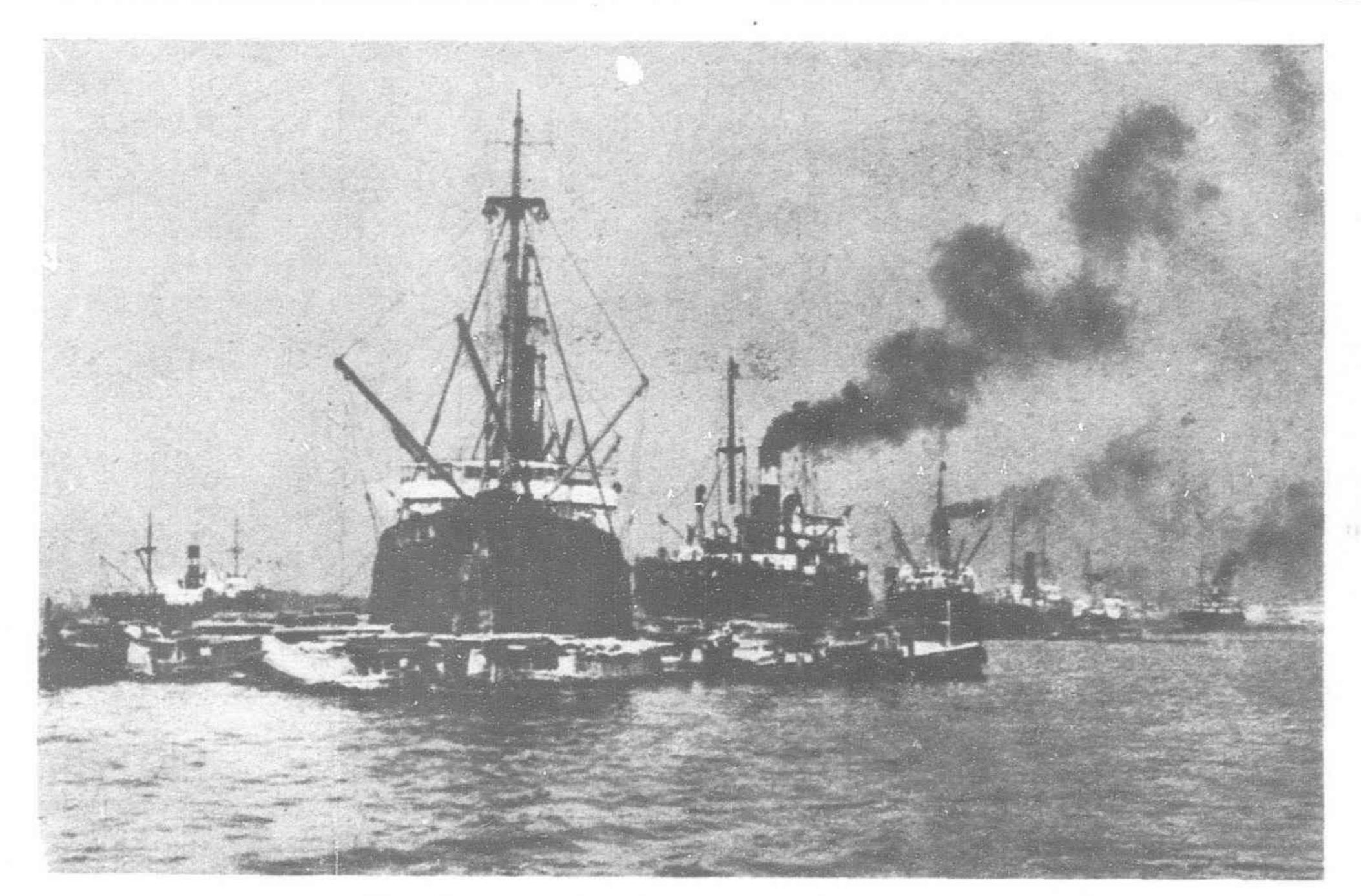
Number of Vessels arrived during 1934:—The total number of vessels of over 300 tons entering the port in 1934 was 3,037. Their total gross tonnage was 7,258,000 tons, representing an average for each vessel of 2,390 tons. On the whole, Tokyo Harbor compares very favorably with other ports of the world, since the average in other ports, at the present time, is about 2,400 tons. The average cargo unloaded by each vessel is 1,600 tons.

Largest Vessel which arrived in the Port:—Among the many vessels which arrived in the port last year, a freighter belonging to a certain navigation company was the largest, her tonnage being 8,200 tons. She is one of the large, if not the largest vessel in our country, she contends for the first place and further indication that Tokyo Harbor compares favorably with other ports as a freight harbor.

Routes of Vessels:—Greater Tokyo consumes a wide variety of goods. Accordingly, many lines have vessels engaged in the transportation of goods from various places. Half of this number is on the regular run. Of the total of 3,037 vessels arriving in the port during the year 1934, 1,585 vessels were on the regular service, while 1,452 vessels were not on regular runs. From this, it will be seen that 52 per cent of the total number were regularly engaged in the transportation of goods to Tokyo Harbor.

With regard to passenger service, there are steamers plying between the Bonin Islands and the port as well as services between Oshima and Hachijojima and Tokyo. During the year 1934, the former transported about 4,900 passengers and the latter an average of 110,000 passengers per year.

Non-Treaty Port:—Tokyo Harbor being a non-treaty port, no vessel of foreign origin in allowed to enter the port; but in exceptional cases a few vessels have entered the port after obtaining special permission. As a rule, only vessels engaged in the coastal service use this port. This may account for the fact that the average citizen, other than those having special connections with marine transportation and warehouse business, has no acquaintance with Tokyo Harbor. It is believed that if Tokyo is made into a trading port, passenger boats from abroad would frequently call at the port and the public would have more opportunities of visiting



Vessels moored at buoys in Tokyo harbor

the port to welcome or see off their friends. Consequently, Tokyo Harbor would become more popular to the general public.

Imports and Exports

General Conditions of 1934:—The amount of goods imported and exported through the port of Tokyo totalled 5,740,000 tons. Of this figure, imports amounted to 4,980,000 tons and exports 760,000 tons. In respect to island trade, both imports and exports far surpasses that of Yokohama Harbor, and is rapidly increasing year by year. Comparing the figures with the previous year, imports increased 500,000 tons and exports 170,000 tons, representing an increase in imports of 11 per cent and an increase in exports 13 per cent.

A general survey of the import and export figures since the year 1927, as shown in the following table, will show that, on the average, the annual increase amounted to 490,000 tons.

Total amount of Incoming and Outgoing Goods in and from Tokyo Harbor

Year				Total amount of incoming goods	$Index \\ No.$	Total amount of outgoing goods	Grand $Total$
				(Tons		-(Tor	(s)
1927	 			2,095,856	100	218,443	2,314,299
1928	 			2,522,644	120	264,920	2,787,604
1929	 *10.*1	* *		2,693,379	129	274,413	2,967,792
1930	 			2,564,486	122	327,917	2,892,403
1931	 			3,466,627	165	352,813	3,819,440
1932	 			3,970,915	189	421,104	4,292,019
1933	 	* *		4,469,245	213	595,382	5,065,627
1934	 		* *	4,977,695	237	763,325	5,741,010

Principal Imports and Exports:—Heading the list of goods imported last year are 1,500,000 tons of coal, 800,000 tons rice and cereals and 740,000 tons of iron, followed by a large amount of lumber, cement, sugar, paper, etc. The order of imported goods remains practically the same every year.

Of goods exported, the principal items were 140,000 tons of dry goods and 140,000 tons of iron materials, followed by mineral ores and kerosene. During the year, some months show heavy imports while other months show decreases in imports. March and April in the spring, July and August in the summer and December and January in the winter particularly show a large quantity of imports every year.

The reason for this may be due to the fact that in the spring season, a large volume of sugar and rice are coming in, and in the winter season shipments of considerable quantity of fuel arrives in Tokyo Harbor. In the summer, a large amount of lumber coming in from Hokkaido and Saghalin by sea. In such districts, the people are waiting for the summer season for the thawing of the ice and export various goods from their ports. A greater part of the shipments of lumber are logs and they are shipped on the deck or hatches of vessels. As soon as the vessels arrive in the harbor

from northern ports, the lumber is discharged into the water and then made into rafts which are transported, and distributed to their respective destinations. Recently, large amount of lumber is coming from the South Sea Islands.

Main Districts of Shipments to Tokyo Harbor:—Tokyo Harbor is receiving goods from almost every district except those which front the Japan sea (Nippon Kai). The main districts are as follows:—Kyushu, Hokkaido, Formosa, Chosen (Korea), Saghalin (Karafuto), Chugoku and Kinki.

How the Goods are Transhipped in Tokyo Harbor:—As already mentioned, one of the noticeable facts of Tokyo Harbor is that most of the goods arrive in this port are transhipped to lighters and dispatched to their respective destinations, instead of being discharged on land. This is due partly to the insufficient equipment on land, but chiefly it is due to the fact that the port is located at the mouth of the River Sumida and such buildings as factories, markets, warehouses and railway station for special use for freight trains which are built along the bank of the Sumida and branch rivers and canals connected with rivers. During 1934, the percentage

of the amount of goods transhipped to lighters in this harbor show 93 per cent of total amount of discharged goods.

Instead of discharging their goods on land, the majority of the vessels alongside of the pier, also tranship their goods to lighters. During 1934, the amount of the goods discharged on land was only 400,000 tons which shows only 7 per cent of the total amount of discharged goods from the vessels, are towed by tug-boats and navigate up the River Sumida to their respective destinations.

86 per cent of the 400,000 tons of goods discharged on land is transported direct to their destinations by motor-lorries and the remainder is distributed to the neighboring prefectures by the railways. Goods, such as cement, paper and fertilizers are stocked in sheds for some time until their respective destinations are fixed.

One of the special provisions landed on the pier is fresh fruit (mostly bananas), from Formosa. Unloading of bananas requires most speedy work, so, whenever banana boats arrive, there is always a flood of motor-lorries which carry the goods to various markets in the city.

Value of the Harbor:—In 1926, the percentage of seaborne traffic occupied only 35 per cent of the total amount of incoming and outgoing goods in the harbor. But, in 1933, the above figure was brought to about 50 per cent each on maritime and land traffic. Although the amount of goods imported from overseas decreases every year, the total amount of the maritime transportation in the harbor has remarkably advanced. This undoubtedly is evidence of the rapid development of domestic trade.

The characteristics of the maritime traffic is that it conveys larger amount of goods at cheaper freight.

Thus the City of Tokyo is gradually attaining its purpose of economizing on the cost of transportation by replacing land traffic with maritime transportation, and as a result of which, it brings lower prices for general commodities.

The welfare of the citizens of Tokyo, therefore, depends much on the development of Tokyo Harbor.

One of the essential benefits the City of Tokyo owes to its development, is maritime convenience, as it is so in Osaka City, which is a little ahead of the former in utilizing this benefit.

As aforementioned, it is clear throughout the world that, modern development of commercial and industrial enterprises, owe much to the facilities afforded by maritime traffic. Accordingly, the City of Tokyo must have a more complete equipment of the harbor and full efficiency for connecting facilities of land and water, in order to attain further prosperity.

In order to give a clear idea about the value of Tokyo Harbor, one will please note the fact that prior to the completion of the improvement work of the harbor, goods were transhipped at Yokohama and then were either carried by lighters to the River Sumida or by railway to the Shiodome Station, thus the cost of transportation was at least higher by 70 sen per ton than the present cost. Damages and loss of time are, of course, not calculated in the above figure.

The total amount of goods received in Tokyo Harbor in 1934, is 5,000,000 tons, as the result of which the citizens of Tokyo could have bought commodities cheaper by Y.35,000 for the year.

With regard to raw materials, the cost is more essential therefore, in case we can obtain raw materials at 70 sen cheaper per ton, than our competitors, it is almost fatal to the rivals and at the same time gives consumers much profit in buying manufactured goods.

Hitherto, Osaka City was said to be the biggest commercial and industrial center in this country. But the statistics of 1932 show that the total amount of industrial production in Osaka is about Y.750,000,000 while the same in Tokyo reached about Y.800,000,000.

There may be several reasons attached to the above result but essentially it depends on the fact that the completion of the Tokyo Harbor enables the above city to import raw materials at cheaper prices.

Brief History of Tokyo Harbor

The present prosperous condition of the harbor is due to many reasons. At the result of Commander Perry's expedition to Japan, Yokohama as well as Hakodate and Nagasaki opened their harbors as treaty ports.

Hakodate and Nagasaki opened their harbors as treaty ports. That was 76 years ago. Some years later, the Great Emperor Meiji removed the capital of Japan from Kyoto to Tokyo, and henceforth the population of this city has rapidly increased. The citizens of Tokyo feel keenly that the Port of Yokohama was not enough as a gateway to the capital but Tokyo itself must have a harbor which should provide direct communication to various places by waterways. Thus, the question of improving the Tokyo Harbor was gradually discussed.

In 1879, Mr. Michiyuki Matsuda, then governor of Tokyo Prefecture, made an official suggestion to Mr. Gen-ichi-ro Fukuchi, the Chairman of Tokyo Prefectural Assembly, with regard to this matter, saying: "It is best to open the harbor of Tokyo in order

to realize the fundamental rectification of the City."

The above suggestion might have been the first time that the question was taken up as an official problem. In 1878, Mr. Murdor, a Netherlander, who was then consulting engineer to the Home Ministry, made public his scheme regarding the Tokyo Harbor Construction. In 1884, Mr. Akimasa Yoshikawa, then governor of Tokyo Prefecture, presented his opinion of "Construction Work of Shinagawa Bay," to late Prince Saneyoshi Sanjo, through the hand of late Prince Aritomo Yamagata. Thereupon such prominent persons as General Kabayama, Messrs. Yajiro Shinagawa, Ei-ichi Shibusawa and Takashi Masuda studied the possibility of the plan, but, as it required about Y.20,000,000 for construction work, the plan was given up.

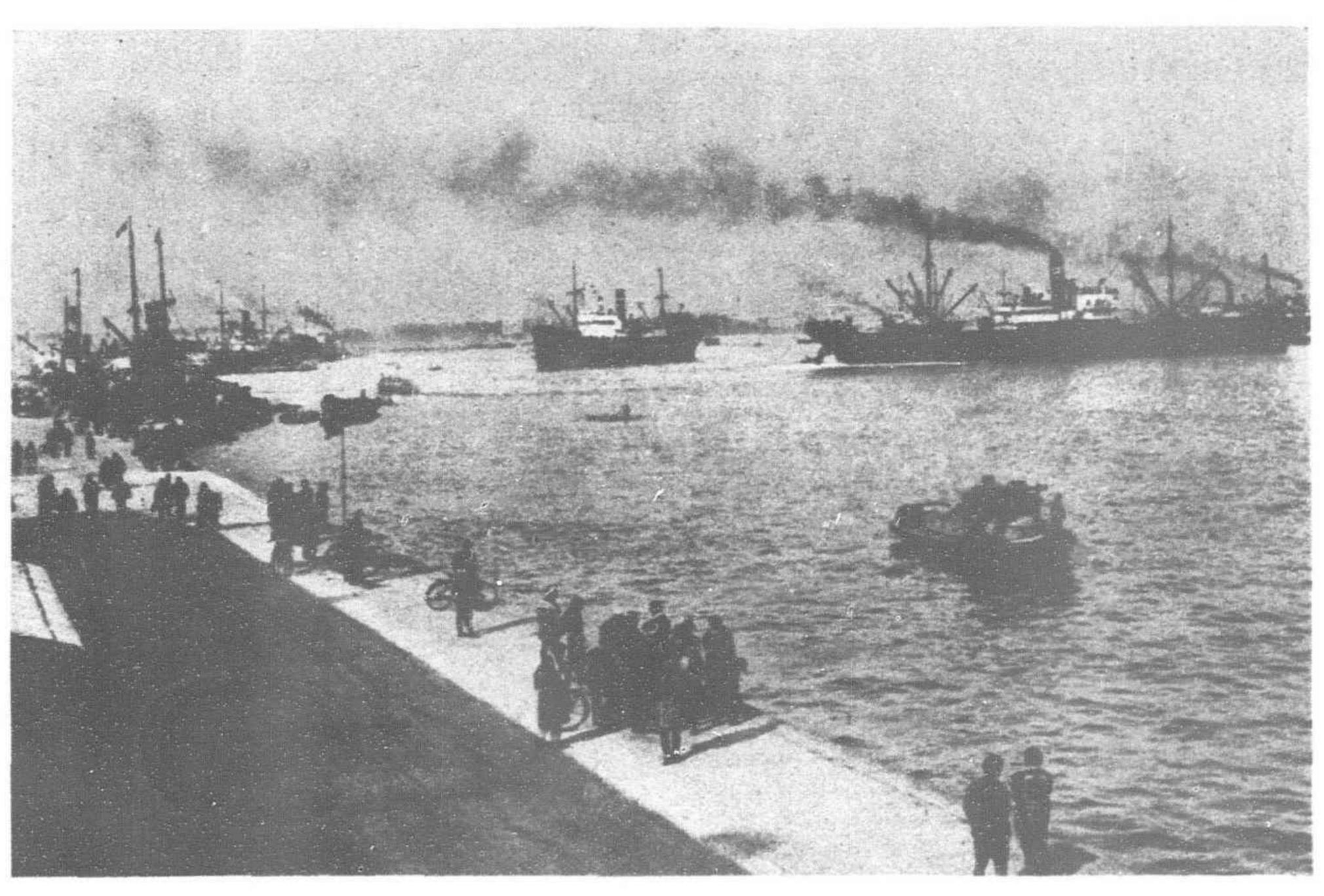
During the period from 1886 to 1896, they were busily engaged on the Yokohama harbor construction, so that the question of Tokyo harbor was neglected for some time. However, in 1896, Mr. Toru Hoshi, an enthusiastic advocater for the harbor construction, was elected as the Chairman of Tokyo Municipal Assembly. In 1899 he himself, occupied the position as the Chief of the Committee of the Harbor Construction Investigation and rendered his

services for the improvement of Tokyo Harbor.

Accordingly, Mr. Masahisa Matsuda, then Mayor of Tokyo made an application to the Home Ministry for the permission of commencing work of Tokyo harbor construction, and at the same time requested a subsidy from the government. An official suggestion was also presented to the Diet. Fortunately the Bill passed the Diet and they were about to start construction work, when Mr. Hoshi was suddenly assassinated, and the work again was brought to a standstill.

In 1903, Dr. Rintaro Naoki, chief city engineer of the Tokyo municipality, presented his opinion regarding the harbor construction, to the Mayor. He, at the same time, presented his scheme relating to improvement work of the mouth of the River Sumida.

He was extremely careful when he made his proposal, because although in case his plan for the harbor construction was denied, his second plan might lead to future construction work.



On the waterfront on Tokyo harbor

The yearly allotments of the expenditures of the third stage improvement work as follows:

		Expenditures					Expenditures
Year		of the work	Year				of the work
1922	 	Y. 244,458.21	1930			Y.	1,830,035.94
1923	 	568,337.15	1931	*::*			1,394,539.19
1924	 	722,000.81	1932	(#.151#)			1,278,467.49
1925	 	1,446,257.50	1933				772,605.83
1926	 	2,537.903.40	1934		141.0		180,000.00
1927	 	2,152,633.01				,	
1928	 	2,145,609.15	Gra	and To	otal	Y.	17,537,881.16
1929		2 265 983 58				-	

The first and second stages of the improving work at the mouth of the River Sumida: As the result of continuous efforts for the harbor construction by many prominent persons for a considerable time, the so-called first stage of improvement work at the mouth of the River Sumida was started in 1906. It took nearly five years to dredge the entire river bed four meters deep from the Eitai-bashi (Eitai bridge spans the River Sumida at its mouth) to the entrance of the harbor. Earth thus dredged from the river bed was used for reclamation work at Shibaura, and at the same time, unloading accommodations for smaller boats were constructed on the same ground.

The second stage of improvement work which started in 1911, repeated dredging operations in the same area and started the construction of the breakwater in the harbor.

The third stage of improvement work at the mouth of the River Sumida: The third stage of improvement work at the mouth of the River Sumida was commenced in 1922. This work was considered to be a portion of the harbor construction work and it includes construction work of the Shibaura-cho quay (some 1,000 meters in length), dredging of the harbor, as well as the construction of the breakwater.

However, at the time of the Great Earthquake disaster of 1923, the harbor was over flooded with vessels carrying relief materials and other goods, and caused much inconvenience because of inadequate equipment of the landing places. Accordingly, apart from the improvement work, the Hinode-cho pier was well as a row of sheds were hurriedly constructed in order to facilitate the communication between land and water. The construction of the harbor area railway followed immediately.

Thus the Tokyo Harbor which, at present is handling about 5,500,000 tons of goods per year, has been constructed through the above process.

The Tokyo Harbor Improvement Scheme

With the rapid development and progress of the Capital, the Tokyo Harbor is still inadequate to fulfil its complete mission. Once, the Home Ministry attached great importance to the question of the harbor construction, and planned to start the work at national expense. However, this plan was given up. Thereupon, according to the Home Ministry's Scheme, the Tokyo Municipality carried out the plan at their own expense and the work was started in 1930.

The work is considered to be of large scale with an estimated cost of Y.33,000,000, commencing with the year 1930, and is to be completed some time in 1936. We remember that in 1885, the plan was regarded almost impossible even for the Cabinet Ministers because of enormous expense of Y.20,000,000 required. Now we are very happy that we are able to carry out this plan under the management of our own municipal body. At present, the work of the third fiscal year is nearly finished, and about to enter into the work of the fourth fiscal year.

The object of this scheme is to expand the handling capacity of goods in the port of 7,500,000 tons per year. Accordingly, we have to dredge the depth of the water of main navigation route and anchorage to 7.5 meters and also extend dredging operations to the water front of Fukagawa, Nos. 4 and 5 reclaimed grounds. At the same time quays and jetties are to be constructed on those grounds which are able to receive 18 vessels at the same time.

Furthermore, sheds must be constructed on the jetty and railway tracks are to be extended thereto. As the result of the above plan, prosperity in both Kyobashi and Fukagawa districts can easily be attained. Nearly 3,306,000 sq. meters of ground will

be reclaimed in connection with the above work.

Nos. 8 and 9 reclaimed grounds will be located in Shinagawa district, and Nos. 10, 11 and 12 reclaimed grounds are outside the breakwater. Furthermore, it will add 35 buoys and provide for the construction of basins for rafts and lumber. A drawbridge will connect Tsukijima and Tsukiji, and several other bridges will be built ending on reclaimed grounds. Thus, the improvement work of the harbor, is not only to extend the port, but also to provide equipment for the communication of land and water. On completion of the work, the harbor will be able to receive 80 large vessels at the same time. We, as citizens of the City of Tokyo, must be thankful to our predecessors since the beginning of the Meiji era.

To summarize the contents, the present plan is as follows:—

Dredging operati	ion	***					16,884,000 sq. meters
Reclamation wor							15,326,000 ,, ,,
Temporary break							655 meters
Dyke (Construct							
under the w							
passage of v	essels	in the	harbor)				3,493 ,,
Moles							500 ,,
Mooring wall, cla	iss A	* *					953 ,,
Ditto, class B							2,007 ,,
Unloading places	s, class	A					1,472 ,,
Ditto, class B		* : x					1,899 ,,
Levee, class A							4,426 ,,
Ditto, class B							8,881 ,,
Piers							309 ,,
Mooring buoys							34 pcs.
Roads			* *				892,620 sq. meters
Drawbridge					* *		1
Railway tracks t	o be la	id					9½ miles
Railway bridges							4
Sheds							44,630 sq. meters
Among	OTTO	totad	itama	tho	follow	ince	have been already

Among above stated items, the following have been already completed:—

Dredging	g operati	on		 	 	3,015,000 sq. meters
Reclama				 	 	5,788,800 ,, ,,
Moles				 	 	500 meters
Unloadin	ng places	, clas	s A	 	 	549 ,,
Pier			# (%)	 	 	309 ,,
Mooring	buoys			 	 	3 pes.
Railway	bridges			 	 	6
Sheds	* *			 	 	6,016 sq. meters

The total amount of this scheme is Y.33,000,000 and yearly expenditures as follows:—

Year							Expenditure
1930				* *	 , .	*	 Y. 500,000
1931			* *		 		 1,500,000
1932					 	* *	 3,000,000
1933					 		 4,000,000
1934					 		 4,000,000
1935					 		 1,000,000
1936			(8)((4)		 		 4,000,000
1937			(80)(80)		 		 4,000,000
1938					 		 4,000,000
1939				* *	 		 7,000,000
Gr	and T	otal			 		 Y.33,000,000

Reclaimed Grounds

The area fronting the Tokyo Harbor is mostly reclaimed grounds. Takeshibacho, Hinodecho and Shibaura districts which

are the oldest reclaimed grounds are, at present, turned into splendid streets, where many factories and shops have been thickly built up. No one could hardly imagine at present, that years ago these quarters were a part of Shinagawa Bay. No. 4 reclaimed ground, where the new city hall is to be constructed, is situated in line with Tsukijima southward and other reclaimed grounds such as Nos. 5, 6, 7 and 8 are spread far in the district of Fukagawa. These are now uncultivated land, but on the eve of completion of the improving work and as soon as communication devices on land are completed, these reclaimed areas are expected to become the so-called harbor area where many factories and warehouses will be built.

Consequently, those areas will turn out to be one of the most prosperous districts in Greater Tokyo. The total area of the reclaimed grounds is approximately 4,959,000 sq. meters viz., the

City of Tokyo vastly extended itself into the sea.

"Daiba" or Port of Shinagawa: Several "Daiba," six in number, are scattered in the water of the Tokyo Harbor. These "Daiba" add much to the view of the Shinagawa Bay all the year round. They are sited in the sea off Susaki and Shinagawa in two rows of three each, but their sizes vary. The first and second "Daiba" have an area of 33,060 sq. meters respectively, the third about 26,448 sq. meters, the fifth and sixth have an area approximately 19,836 sq. metres respectively. The second and fifth "Daiba" standing just at the entrance of the harbor are provided with lighthouses and watchman's booths for safety of navigation routes.

The sixth "Daiba" is specially protected as a place of historic interest and is kept in its original condition and the third "Daiba" was opened to the public as a "Park on the Sea." If you stand on the shore and look over the sea, the "Daiba" looks just like a small islet, but on visiting the same, visitors will be surprised by its size, contrary to their expectations.

The distance from Shibaura to the "Daiba" is only a mile and a half, and around there everything is very quiet and peaceful. The climate there is comparatively cool in the summer and is rather mild in the winter and it also has a commanding view of the boundless sea. No wonder that the number of visitors to this

place is increasing year after year.

Classification of Period of Expenditure the Work Time Yen

The first stage 1906-1911 2,512,506 of the improvement work at the mouth of the River Sumida.

The second stage 1911-1915 1,923,289 of the improvement work at the mouth of the River Sumida.

Construction of 1924-1925 1,573,530 equipment of communication facilities between land and water.

Construction of 1928-1930 272,094 the Harbor Area

Railway.

The third stage 1929-1933 17,944,563 of the improvement work at the mouth of the River Sumida.

Details of the Work

Dredging operation (from the mouth of the River Sumida to the entrance of the harbor) 9,550 meters in length, 91 meters in width, 3.6 meters in depth.

Reclamation, area 474,441 sq. meters. Construction of the Hinodecho pier, 667 meters in length, depth of the water 3.6 meters.

Dredging operation (repeated in the same area as above stated) 9,160 meters in length, width between 127 and 218 meters, 3.6 meters in depth.

Reclamation, area 782,657 sq. meters. Construction of dam (placed under the water and provided in both sides of the entrance of the harbor) 3,680 meters in length.

Construction of the Hinodecho pier, 564 meters in length, 13.6 meters in width, depth of the water immediately front of it 6.1 meters.

Construction of eight sheds, aggregate floor area 17,578 sq. meters. two tug-boats.

Extension work of the harbor area railway.

Construction, a drawbridge. Dredging operation, navigation route and anchorage, area 3,736 sq. meters, depth of the water of the whole area between 2.5 and 7.6 meters.

Construction of Shibauracho quay, 909 meters in length, depth of the water front 7.6 meters.

Reclamation, area 3,512,130 sq. meters. A temporary break-water, 2,386 meters in length.

Engineering Notes

ELECTRICAL

HYDRO-ELECTRIC PLANT.—The Chinese National Economic Council is reported to have sanctioned a \$1,500,000 loan contract for the construction of a hydro-electric plant in Kiangsi province.

NEW POWER STATION.—The Siemens Works in Germany have obtained the contract for a new steam power station for Canton. Siemens Schuckert are the general contractors, and other German firms are taking part. Another order from Siemens for China includes a 15,000 kilowatt turbine for Peiping.

PLANS EXTENSIONS.—With arrangements practically completed, it is announced by the Nanking Electric Power Works that service will shortly be extended to Lungtan, near the Capital. Since the expansion of the Works, several neighboring towns and districts have been benefited by provision of electricity supply, including Tangshan, where the hot springs are located, Tushan, District capital of Kiangnan (Nanking), Pukou, station of the Tientsin-Pukou Railway, and the district of Luho.

ELECTRICITY IN FORMOSA.—The Taiwan Electric Power Co., which with the completion of its Jitsugetsutan power station generates 120,000 kilowatts, has decided to build additional equipment, by which 40,000 kilowatts are to be generated by the water power at the Jitsugetsutan Station No. 1. Work for this was to have been started in May. Construction expenses are estimated at Y.1,190 per kilowatt, which is said to be very cheap. Total expenses are estimated at Y.7,600,000.

COMMUNICATIONS

LONG-DISTANCE TELEPHONE.—The newly installed long-distance telephone service on the inter-provincial highway linking Sian and Lanchow, provincial capitals of Shensi and Kansu, was officially opened to traffic on July 1.

HIGHWAY COMPLETED.—The highway between Ningtu and Juikin. former bandit districts in south-eastern Kiangsi, has been completed, according to a message. It was built by soldier-labor. The new road will give great impetus to Kiangsi-Fukien inter-provincial communications as the highway between Juikin and Changting (Tingchow, south-western Fukien, is aiready in operation). With the operation of omnibus service, only three days will be required to travel from Nanchang, provincial capital of Kiangsi, to Amoy, the important coastal port in southern Fukien.

TELEPHONE SYSTEM FOR FUKIEN .- Plans for development of the long-distance telephone system in Fukien have been mapped out by the Provincial Government, for submission to the Ministry of Communications. One of the lines is to link Foochow, the provincial capital, and Wenchow, important port in south-eastern Chekiang passing through Fuan, in northeastern Fukien. Double lines will be installed on the Nanping-Kienyang-Pucheng and Kienyang-Shao-wu circuit in the north, and the Tingchow-Liencheng-Nantsing-Lungki circuit in the south. The cities of Changpu, Lungki and Sienyu will also be connected.

CHINA TELEPHONE EXTENSIONS.—Elaborate plans for a network of long-distance telephone wires along China's trunk railway lines have been worked out by the Communications Ministry. Work will be started along the southern section of the Tientsin-Pukow Railway before the end of 1935, and work on the line along the Peiping-Hankow and the Lunghai Railways is to commence immediately. In order to connect the telephone service between the Lunghai and the Tientsin-Pukow Railways, an exchange is to be erected in Hsuchow, Kiangsu. Work on the trunk telephone service along the Shanghai-Nanking Railway is already in progress.

INDUSTRIAL

DEVELOPMENTS IN JAPAN.—The cyanamide calcium industry is rapidly developing in Japan. Mr. Momosuke Fukuzawa, adviser to the Daido Electric Power Co., is to build a factory to produce carbide and calcium cyanamide at the same time; the Electro-Chemical Co. intends to exploit the Waka River, with a view to going into the calcium cyanamide and alloy industry; Tobu Electric Power Co. has plans to manufacture carbide and calcium cyanamide near the city of Takasaki; Toyo High Pressure Industry Co. has decided to call in unpaid shares to the amount of Y.4,000,000, to perfect an ammonium sulphate plant in course of construction at Omuta. Kyushu, with a capacity of 152,000 tons; and Chosen Nitrogen Co. intends to go into the metallic magnesium industry in Korea. Chosen Nitrogen has already purchased a good mine in Korea and has signed a contract with the American Syanamid Corporation for use of its patent to manufacture magnesium.

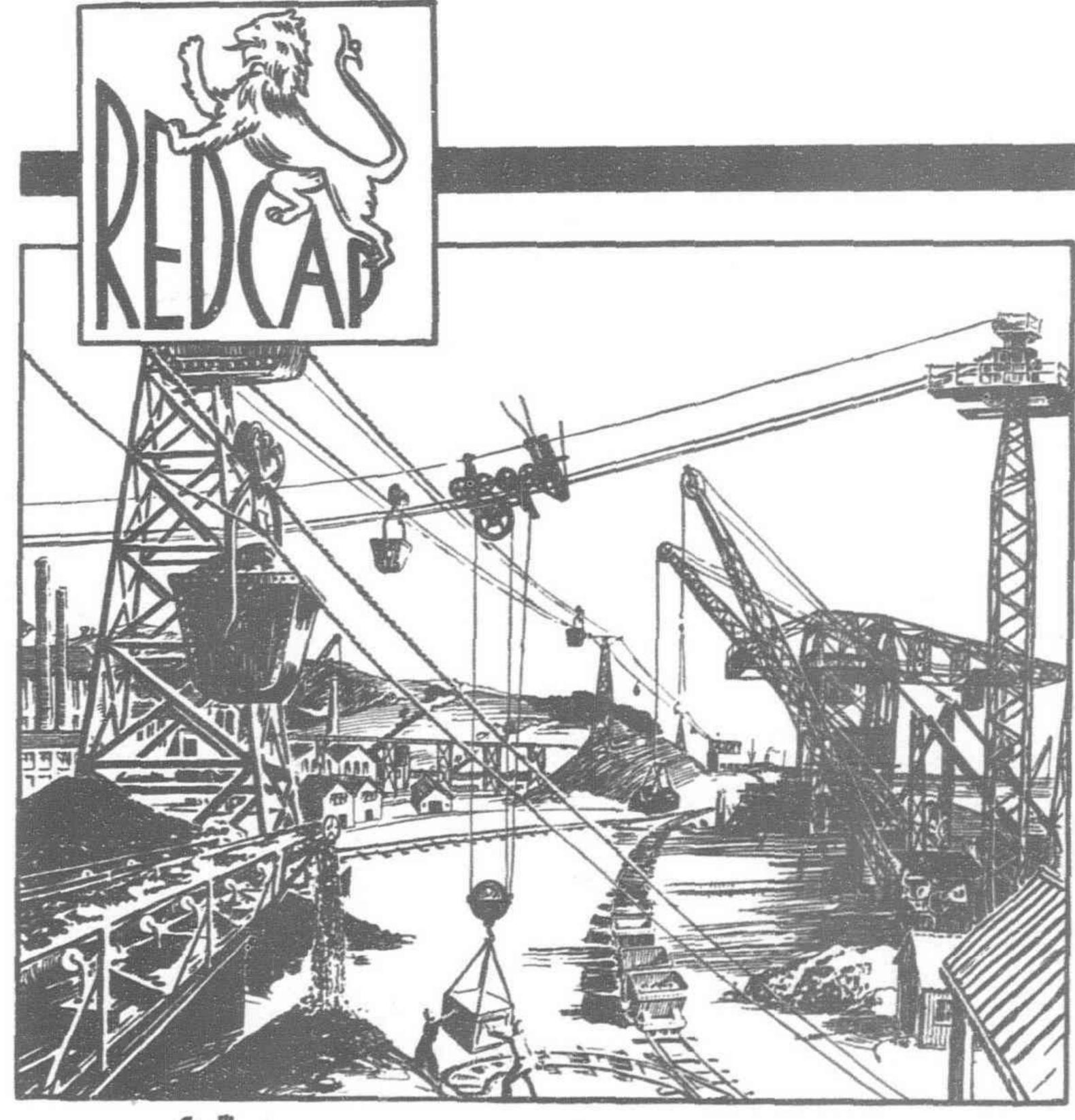
SHIPPING

SOVIET NAVAL BASE.—Construction of a new Soviet naval base at Possiet Bay, in an inlet south of Vladivostok and near the Korean border, is under way. Large quantities of materials for the building of the new base are being assembled at Vladivostok.

LIENYUNKANG PORT.—Development of the new port of Lienyunkang, at the eastern terminus of the Lung-Hai Railway, is making great strides. The latest pieces of construction work started are the building of a reservoir and an electric power plant under the auspices of the Lung-Hai Railway Administration.

YANGTZE NAVIGATION.—Blasting operations for the removal of dangerous rocks in the Upper Yangtze, which are impeding navigation, have been asked for by General Chiang Kai-shek. In view of the enormous labor and expense involved, the Government has decided to send engineers to make a thorough investigation.

ORDERS OIL TANKER.—The Siamese Government has ordered from the Mitsui Bussan Kaisha an oil tanker of 2,000 tons gross at a cost of Y.750,000. The tanker will be completed in July, 1936, at Hakodate. Manchuria Chemical Co., of Dairen, started manufacturing 150 metric tons of ammonium sulphate a day on April 2.





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